LITEON® Service



Model ID:MB243WABNS

Service Manual

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Safety Notice

Any person attempting to service this chassis must familarize with the chassis and be aware of the necessary safety precautions to be used when serving electronic equipment containing high voltage.

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光寶科技

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Product Anouncement:

This product is certificated to meet RoHS Directive and Lead-Free produced definition. Using approved critical components only is recommended when the situation to replace defective parts. Vender assumes no liability express or implied, arising out of any unauthorized modification of design or replacing non-RoHS parts. Service providers assume all liability.

Qualified Repairability:

Proper service and repair is important to the safe, reliable operation of all series products. The service providers recommended by vender should being aware of notices listed in this service manual in order to minimize the risk of personal injury when perform service procedures. Furtermore, the possibile existed improper repairing method may damage equipment or products. It is recommended that service engineers should have repairing knowledge, experience, as well as appropriate product training per new model before performing the service procedures.

NOTICE:

- ! To avoid electrical shocks, the products should be connect to an authorized power cord, and turn off the master power switch each time before removing the AC power cord.
- ! To prevent the product away from water or explosed in extremely high humility environment.
- ! To ensure the continued reliability of this product, use only original manufacturer s specified parts.
- ! To ensure following safty repairing behavior, put the replaced part on the components side of PWBA, not solder side.
- ! To ensure using a proper screwdriver, follow the torque and force listed in assembly and disassembly procedures to screw and unscrew screws.
- ! Using Lead-Free solder to well mounted the parts.
- ! The fusion point of Lead-Free solder requested in the degree of 220°C.

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1.1 SCOPE

This document defines the design and performance requirements for a 24W inch diagonal , flat panel monitor .The display element shall be a WUXGA (1920x1200) resolution TFT-LCD (Thin Film Transistor Liquid Crystal Display).16.7M color(RGB Hi+FRC) images are displayed on the panel.Video input signals are analog RGB (0.7Vp-p). When the systemis powered-on , previously stored screen parameters for a pre-defined mode will be recalled if the operating mode is one of stored in memory(24 factory , 9 users timing).This monitor operates normal by non-interlaced mode. DDC (Display Data Channel) function is DDC2Bi compliance Power saving function complies with the DPMS (Display Power Management Signaling) standard.

1.2 GENERAL REQUIREMENTS

AMLCD: LTM240CT01
LTM240CT03

1.2.1 Test Condition

Brightness level & contrast level max. Full white pattern test mode following spec. Warm up more than 1 hr, ambient light < 10 Lux , Luminance meter CA110 or BM7 or same equipment .

1.2.2 Test Equipment

The reference signal source is a calibrated Chroma 2135 video generator or higher.The use of other signal generators during qualification and production is acceptable provided the product complies with this specification.

1.3 ELECTRICAL

This section describes the electrical requirement of the monitor. The LCD monitor consists of an interface board , a power board , a function key board. The interface board wil l house the flat panel control logic , brightness control logic, audio function control (option), key function control, DDC and DC to DC conversion to supply the appropriate power to the whole board and LCD flat panel , and transmitting LVDS signals into LCD flat panel module to drive the LCD display circuit .The power board will support main power DC5V to interface board, and the power DC5.3V to audio function power of interface board, and drive the two CCFLs (Cold Cathode Fluorescent Tube).The interface board provides the power ON / OFF control over the whole monitor and control for DPMS LED indicator to function key board.

MONITOR SPECIFICATIONS

ITEM		SPEC
Signal Input (Analog)	Frequency	Analog : H : 30kHz~94kHz V : 55Hz~76Hz
	Pixel clock	205MHz (Max)
	Video Input	Analog 0.7Vp-p
	Display Pixels	640 x 480 (VGA) ~ 1920 x 1200 (WUXGA)
	Sync Signal	Separate SYNC for TTL (N or P)
Signal Input (Digital)	Frequency	Digital : H : 30kHz~94kHz V : 55Hz~76Hz
	Pixel clock	165MHz (Max)
	Video Input	Analog 0.7Vp-p Input Impedance 75Ω
	Display Pixels	640 x 480 (VGA) ~ 1920 x 1200 (WUXGA)
Connector	AC Input	AC100V ~ AC240V ± 10% 50/60Hz , 3 pin AC power cord
	Input connector	D-SUB 15 pin & DVI-D
	Audio Jack (OPTIONAL)	Audio input 3.6F
Power Consumption	AC in 100V~240V	active 90W, power saving < 2W
User's Control	Front	Empowering,Auto Adjust,Adjust(-),Adjust (+),Menu,Power
	OSD	Contrast , Brightness , Position ,Clock ,Phase ,Analog/Digital,RESET, Color , Language select , etc.
Pre-Defined Timing	Factory	24
	User	9
Plug and Play		VESA DDC2Bi
Power Saving		VESA DPMS
Input Signal Counter Tolerance		≦ H ± 1kHz, ≦ V ± 1 Hz

1.3.1 Interface Connectors

1.3.1.1 Power Connector and Cables

The AC input shall have an IEC/CEE-22 type male power receptacle for connection to mains power. The power cord shall be with length of 1.8+/-0.005 meters.

1.3.1.2 Video Signal Connectors and Cable

The signal cable shall be 1.8 +/-0.005 meters long. At the end of the cable shall be a molded-over, shielded,triple row, 15 position, D-subminiature connector. The CPU connection shall have captive screw locks, which will be adequate for hand tightening. The monitor connection may use small screws.

Connector Pin Assignment

DSUB

Pin	Signal	Pin	Signal	Pin	Signal
1	Red-Video	6	Red-GND	11	NC
2	Green-Video	7	Green-GND	12	DDC-SDA
3	Blue-Video	8	Blue-GND	13	H-SYNC
4	NC	9	+5V	14	V-SYNC
5	DDC-GND	10	Sync-GND	15	DDC-SCL

Connector Pin Description

D-SUB Pin Description

Pin	Name	Description
1	Red-Video	Red video signal input.
2	Green-Video	Green video signal input.
3	Blue-Video	Blue video signal input.
4	GND	Ground
5	DDC-GND	DDC ground for the VESA DDC2Bi function.
6	Red-GND	Analog signal ground for the Red video.
7	Green-GND	Analog signal ground for the Green video.
8	Blue-GND	Analog signal ground for the Blue video.
9	+5V	+5V input from host system for the VESA DDC2Bi function.
10	Sync-GND	Signal ground
11	GND	Ground
12	DDC_SDA	SDA signal input for the VESA DDCB2i function.
13	H-SYNC	Horizontal signal input from the host system.
14	V-SYNC	Vertical signal input from the host system.
15	DDC-SCL	SCL signal input for the VESA DDC2Bi function.

DVI-I / DVI-D (If using DVI-D cable, C1, C2, C3, C4, C5 is NC)

Pin	Signal	Pin	Signal	Pin	Signal
1	RX2-	11	GND	21	NC
2	RX2+	12	NC	22	GND
3	GND	13	NC	23	RXC+
4	NC	14	5V	24	RXC-
5	NC	15	GND	C1	Analog Red (NC)
6	SCL	16	HP	C2	Analog Green (NC)
7	SCA	17	RX0-	C3	Analog Blue (NC)
8	Analog V-Sync (NC)	18	RX0+	C4	Analog H-Sync (NC)
9	RX1-	19	GND	C5	GND
10	RX1+	20	NC		

DVI-I / DVI-D Connector Pin Description

Pin	Name	Description	Pin	Name	Description
1	RX2-	TMDS link #0 channel #2 differential pair	16	HP	Hot plugging
2	RX2+	TMDS link #0 channel #2 differential pair	17	RX0-	TMDS link #0 channel #0 differential pair
3	GND	GND for no link share	18	RX0+	TMDS link #0 channel #0 differential pair
4	NC	NC	19	GND	GND for no link share
5	NC	NC	20	NC	NC
6	SCL	Clock line for DDC interface	21	NC	NC
7	SDA	Data line for DDC interface	22	GND	Clock shield
8	Analog V-Sync	V-sync for analog interface	23	RXC+	TMDS clock differential pair
9	RX1-	TMDS link #0 channel #1 differential pair	24	RXC-	TMDS clock differential pair
10	RX1+	TMDS link #0 channel #1 differential pair	C1	Analog Red	Analog Red signal
11	GND	GND for no link share	C2	Analog Green	Analog Green signal
12	NC	NC	C3	Analog Blue	Analog Blue signal
13	NC	NC	C4	Analog H-Sync	H-sync for analog interface
14	5V	+5V input from host system for DDC2B function.	C5	Analog GND	Analog GND
15	GND	Ground(Using as Detect Cable)			

The following table shows pin assignments in the HDMI connector:

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data 2-	9	T.M.D.S. Data 0-	17	DDC/CEC Ground
2	T.M.D.S. Data 2 Shield	10	T.M.D.S. Clock +	18	+5V Power
3	T.M.D.S. Data 2+	11	T.M.D.S. Clock Shield	19	Hot Plug Detect
4	T.M.D.S. Data 1+	12	T.M.D.S. Clock -		
5	T.M.D.S. Data 1 Shield	13	CEC		
6	T.M.D.S. Data 1-	14	Reserved(N.C. on device)		
7	T.M.D.S. Data 0+	15	SCL		
8	T.M.D.S. Data 0 Shield	16	SDA		

1.3.2 Video Input Signals

Video Input Signal

No.	Symbol	Item	Min	Normal	Max	Unit	Remark
1	Fh	Scanning Horizontal Frequency	30		94	kHz	Minimum range
2	Fv	Scanning Vertical Frequency	55		76	Hz	Minimum range
3	Vih	Hi Level Input	2		5		Note 1)
4	Vil	Low Level Input	0		0.8	V	Note 1)
5	Video	RGB Analog Video Level	0.0	0.7	1.0	V	75Ω to Ground

Note 1) Schmitt-Triggers Input, Supported 3.3V device H(&V) sync output from PC.

1.3.2.1 Video Signal Amplitudes

The three video inputs consist of Red ,Green , and Blue signals, each with its own coaxial cable terminated at the monitor. These video signals are analog levels, where 0 V corresponds to black , and 700 mV is the maximum signal amplitude for the respective color, when each signal is terminated by a nominal 75.0 ohms .For a given monitor luminance levels are measured using this defined video amplitud driving a monitor meeting the termination requirements .The signal amplitude is not to be readjusted to compensate for variations in termination impedance.

1.3.2.2 Video Signal Termination Impedance

This analog video signal termination shall be 75Ω+/-1% which shall be resistive with a negligible reactive component .

1.3.2.3 Synchronization (Sync) Signals

The Horizontal Sync (HS) TTL signal is used to initiate the display of a horizontal line. HS may be either active high or active low, depending upon the timing .The Vertical Sync (VS) TTL signal is used to initiate the display of a new frame .VS may be either active high or active low, depending on the timing

1.3.2.4 Sync Signal Levels

The monitor must accept sync signals from both 3.3 and 5 volt TTL logic families.The inputs shall sense a logic 0 when the input is 0.8 volt or less and shall sense a logic 1 when the input is 2.0 volts or greater. In addition to these level requirements, there shall also be a minimum of 0.3 volt hysteresis provided for noise immunity (typically by using a Schmitt Trigger input).That is , the input level at which the monitor actually detects a logic 0 shall be at least 0.3 volt lower than the level at which it actually detects a logic 1.If the monitor sync processing circuits are designed around the 3.3 volt logic family ,then the sync inputs must be 5 volt tolerant .

1.3.2.5 Sync Signal Loading

TTL input loading shall be equivalent to one TTL input load. When logic 0 is asserted by a sync input , the maximum current source from any single monitor sync input to the driver is 1.6 mA .When logic 1 is asserted , the maximum current source from the driver to any single monitor sync input is 400 uA .

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1.3.2.6 Abnormal Signal Immunity

The monitor shall not be damaged by improper sync timing , pulse duration , or absence of sync , or abnormal input signal amplitude (video and/ or sync too large or too small) , or any other anomalous behavior of a graphics card video generator when changing modes , or when any combination of input signals is removed or replaced . Additionally , under these conditions , the monitor shall not cause damage to the driving source

1.3.3 User Controls and Indicators

1.3.3.1Power On / Off Switch

The monitor shall have a power control switch visible and accessible on the front of the monitor . The switch shall be marked with icons per IEC 417 , # 5007 and # 5009.The switch shall interrupt the DC supply to the monitor

1.3.3.2 Power Indicator LED

The monitor shall make use of an LED type indicator located on the front of the monitor . The LED color shall indicate the power states as given in Table 1.

Table 1

Function	LED Color
Full Power	Blue color
Sleep	Orange color

1.3.3.3 On-Screen Display

The Lite-ON On Screen Display system shall be used , controlled by a Menu button. If the buttons remain untouched for OSD turn off time while displaying a menu , the firmware shall save the current adjustments and exit. Also, if the video controller changes video mode while the OSD is active, the current settings shall be saved immediately, the OSD turn off, and new video mode is displayed.

Description

Key	When no OSD display	OSD Displayed
MENU	Menu Display	1. To display the OSD menu on the screen. 2. To select the OSD sub-Menu
>	Speaker Volume/Plus (with Audio)	1. Back-forward selection of the OSD menu. 2. Decrease the value after sub-menu selected.
<	Speaker Volume/Minus (with Audio)	1. Forward selection of the OSD menu. 2. Increase the value after sub-menu selected.
Auto	Auto Adjust Function	Menu or sub.menu auto adjust
E	Empowering	Menu or sub.menu EXIT/Scenario mode

1.3.3.4 OSD adjustment

ITEM	CONTENT
BRIGHTNESS	Back light Luminance of the LCD panel is adjusted.
CONTRAST	A gain of R , G and B signal is adjusted.
AUTO CONTRAST	A gain of R , G and B signal auto adjust.
CLOCK	The ratio of dividing frequency of the dot clock is adjusted.
PHASE	The phase of the dot clock is adjusted.
H-POSITION	The indication screen is horizontally moved right and left (1 Pixels pitch).
V-POSITION	The indication screen is vertically moved up and down (1 Pixels pitch).
AUTO ADJUST	Clock system auto adjustment, about under 8 sec.
COLOR BALANCE	Select three kinds of modes. (USER /WARM / Cold).
OSD POSITION	The OSD indication position can be adjusted.
OSD LANGUAGE	Select the language used for the OSD menu among English , French , Italian , Deutsch and Spanish.
RECALL DEFAULTS	All data copy from factory shipment data.
OSD DURATION	Adjust OSD menu off time range from10~120 second.
POWER-SAVE	Back light of the LCD panel is cut when the signal is not input (AC line power consumption 2W or less).
INFORMATION	The frequency of the horizontal / vertical synchronizing signal under the input is indicated.

※ NOTE : OSD MENU SEE APPENDIX A

1.3.4 Monitor Modes and Timing Capability

1.3.4.1 Format and Timing

The monitor shall synchronize with any vertical frequency from 55 to 76 Hz , and with any horizontal frequency from 30 to 94KHz. If the input frequency is out of the above – specified range, the monitor shall display a warning screen indicating that the input frequency is out of range. Under no circumstances shall any combination of input signals cause any damage to the monitor .

1.3.4.2 Factory Assigned Display Modes

There are 24 factory pre-set frequency video modes. These modes have a factory pre-set for all characteristics affecting front-of-screen performance. When the system is powered-on,previously stored screen parameters for a pre-defined mode will be recalled if the operating mode is one of those stored in memory. If the operating mode is not one of those stored in memory, the monitor CPU will select the PRESET timing for a mode that is the next lowest in horizontal scanning frequency to the mode being currently used. The screen parameters may be adjusted by the use of the front bezel controls and then may be saved as a user defined mode. The monitor shall include all the preset video timings shown in the following page.(Please see Note.(3))

1.3.4.3 Mode Recognition Pull-in

The monitor shall recognize preset modes within a range of +/-1KHz whichever is less for horizontal ; and within +/-1Hz for vertical.

1.3.4.4 User Display Modes

In addition to the factory pre-set video modes, provisions shall be made to store up to 9 user modes. If the current mode is a user mode, the monitor shall select its previously stored settings. If the user alters a setting, the new setting will be stored in the same user mode. The user modes are not affected by the pre-set command. If the input signal requires a new user mode, storage of the new format is automatically performed during user adjustment of the display (if required).(Please see Note.(4))

Preset timing Chart

Preset Timing Chart

Item	Resolution	H-Sync (KHz)	V-Sync (Hz)	Band Width (MHz)	Polarity		Source
					H	V	
1	720 x 400	31.472	70.4	28.325	-	+	VGA
2	640 x 480	31.469	59.94	25.175	-	-	VGA
3	640 x 480	37.5	75	31.5	-	-	VESA
4	648 x 500	31.234	57.735	31.234	+	+	MAC
5	800 x 600	37.879	60.3	40	+	+	VESA
6	800 x 600	46.875	75	49.5	+	+	VESA
7	1024 x 768	48.363	60	65	-	-	VESA
8	1024 x 768	60.023	75	78.75	+	+	VESA
9	1280 x 1024	63.981	60	108	+	+	VESA
10	1280 x 1024	79.976	75	135	+	+	VESA
11	1440 x 900	55.469	59.01	88.75	+	-	CVT-RB
12	1440 x 900	55.935	59.887	106.5	-	+	CVT
13	1440 x 900	70.635	74.98	136.75	-	+	CVT
14	1280 x 720	45	60	74.25	+	+	CEA-861
15	1280 x 800	49.702	60	83.5	-	+	CVT
16	1280 x 800	62.795	75	106.5	-	+	CVT
17	1600 x 1200	75	60	162	+	+	VESA
18	1600 x 1200	74.006	59.924	130.25	+	-	CVT-RB
19	1600 x 1200	93.75	75	202.5	+	+/-	VESA
20	1680 x 1050	65.29	59.954	146.25	-	+	CVT
21	1680 x 1050	64.674	59.883	119	+	-	CVT-RB
22	1680 x 1050	82.306	74.892	187	-	+	CVT
23	1920 x 1200	74.038	59.95	154	+	-	CVT-RB
24	1920 x 1200	74.556	59.885	193.25	+	-	CVT

NOTE : (1) $76 \leqq FV \leqq 86$: monitor can display but doesn't guarantee.

(2) $fV < 55$, or $fV > 86$: warning invalid mode.

(3) Factory model :

After we first burn the code into the flash, every preset-model we run first must do auto-adjusting.
Then it'll not do auto-adjust again when we changed preset-mode back including AC on/off DC on/off.
The only way that preset-mode do auto-adjust again is press " Internal Factory Reset".

(4) User mode :

The code should memorize 9 timing mode exclusive of preset-modes as use mode and do auto-adjusting.
When user set a new mode that is not among previously. It'll do auto-adjusting then be solved to user mod
The new mode will overwrite the first memorized user modes.
The user modes be cleared is same as Factory mode. Just do " Internal Factory Reset".

(5) Internal Factory Reset and OSD Factory Reset behavior.

FACTORY PRESET VIDEO TIMINGS (DIGITAL INPUTS)

CEA-861-C code	H-Active	V-Active	I/P	H-tot.	HB	V-tot.	VB	H-freq (kHz)	V-freq (Hz)	Pixel freq (MHz)	Inputs
17,18	720	576	P	864	144	625	49	31.250	50.000	27.000	DVI,HDMI
19	1280	720	P	1980	700	750	30	37.500	50.000	74.250	DVI,HDMI
20	1920	1080	I	2640	720	1125	22.5	28.125	50.000	74.250	DVI,HDMI
21, 22	1440	576	I	1728	288	625	24.5	15.625	50.000	27.000	HDMI
31	1920	1080	P	2640	720	1125	45	56.250	50.000	148.500	DVI,HDMI
39	1920	1080	I	2304	384	1250	85	31.250	50.000	72.000	DVI,HDMI
2, 3	720	480	P	858	138	525	45	31.469	59.940	27.000	DVI,HDMI
4	1280	720	P	1650	370	750	30	44.955	59.940	74.176	DVI,HDMI
5	1920	1080	I	2200	280	1125	22.5	33.716	59.940	74.176	DVI,HDMI
6, 7	1440	480	I	1716	276	525	22.5	15.734	59.940	27.000	HDMI
16	1920	1080	P	2200	280	1125	45	67.433	59.940	148.352	DVI,HDMI

■ Digital inputs (DVI, HDMI): Conflicting video- and PC timings are to be treated as Video timings with one exception: 640x480p/60Hz timing to be treated as PC-timing.

■ Analog input (VGA) treats all timings as PC-timings.

1.3.5 Controller Requirements

1.3.5.1 General Requirements

The monitor shall include a controller capable of converting the analog RGB signal from a standard WUXGA resolution video controller in the CPU to a signal which can be displayed on the panel. The controller will include a PLL, A/D converters, LVDS transmitter and other circuitry necessary to perform its function. The PLL shall be stable enough to ensure that a static image from the CPU is placed in the same physical location on the flat panel in each frame.

1.3.5.2 Video Stretching

The monitor shall contain provisions to “stretch” the video signal, so that an input signal from the computer in any resolution smaller than 1920 x 1200 is automatically expanded to fill the entire screen.

1.3.5.3 Panel Timing and Interface

The controller supplied with the monitor shall control all panel timing. This controller shall adequately insulate the monitor from the computer, so that no possible combination of input signals from the computer shall cause damage to the flat panel or any other component of the monitor. The LCD panel interface shall support the TFT standard.

1.3.6 DC - AC Inverter Requirements

The DC-AC inverter is on the power board. The frequencies used by the DC-AC inverter used to power the backlight shall be chosen so as to prevent any noticeable effects on the flat panel (such as a rolling effect).

1.3.7 Power Supply Requirements

The AC to DC converter power supply for the monitor shall be an external AC to DC converter ”brick” This brick shall have an IEC receptacle for main power input and a pin - in ---socket for DC power out. The brick shall provide sufficient power for both the monitor and the backlight assembly, and shall meet requirements specified in Table 2.

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Table 2
AC to DC Converter Requirements

Input Voltage Range	The operating range shall be from 90 to 132 and 195 to 265 AVC sinusoidal for all models specified.
Input Frequency Range	Input power frequency range sha;; be from 47.5 to 63 Hz over the specified input voltage range.
Power Consumption	Power consumption for the monitor shall be less than 46W over the specified voltage and frequency ranges. In suspend or sleep mode the power consumption will be less than 2W.
Line Fuse	The AC input shall be fused and become electrically open as a result on an unsafe current level. The fuse many not be user replaceable.
Initial Cold Start	The power supply shall start and function properly when under full load, with worst case conditions of input voltage, input frequenct, operating temperature, and cold backlight lamps.
Inrush Current	The inrush current must be limited to 30A when operated at 120VAC, and 50A when operated at 220VAC. Inrush current is measured at an ambient temperature of 25°C, with the unit temperature stabilized in the power-off.
Hot Start Cycle	The power supply shall be damaged when switched ON for one second and OFF for one second for seven consecutive after operating for one hour at full load, 25°C, and nominal input line voltage.
Under Voltage	The power supply shall contain protection circuitry such that the application of an input voltage below the minimum specified in this table shall not cause damage to the power supply unit nor cause failure of the input.
Line Transient	The power supply shall operate within IEC 801-4 (± 1KV) and IEC 801-5 (± 2KV) for the domestic U.S. version. The UPS power supply shall operate and comply with CE mark.

1.3.8 Display Communications Channel

The monitor assembly shall provide a display communications channel that conforms to VESA DDC2Bi hardware requirements. This configuration shall contain the 128-byte EDID file as specified by VESA EDID standard.The monitor should not write to the EDID file for the first two minutes of operation following power-up UNLESS some action taken by the user or the host CPU forces the write (for instance, requesting the serial number via the OSD). Furthermore, it is recommended that CMOS switches be incorporated to isolate the DDC IC from outside connections while the EDID Fault Management is being updated. This is to prevent corruption of the data by attempts to read the data while it is being changed.

1.3.9 Firmware Update Function (same ISP function)

The update firmware need through from the D-Sub connector, use DDC I2C bus to do update firmware.

1.4 PANEL ELECTRICAL

1.4.1 General Requirements

The panel used as the display device shall be an WUXGA resolution, 24W TFT-LCD. This panel shall be approved for use in this monitor.

1.4.2 Panel Timings

The controller included with the monitor shall translate all video timings from the CPU that meet the timing requirements listed in Panel specification into timings appropriate for the panel. Under no circumstances may the controller supply the panel with timings that may result in damage. The controller shall insulate the panel from the CPU , so that the panel shall always be driven per it's own specification regardless of the timings being sent from the CPU.

1.4.3 Polarizer Hardness

The outer face of the front polarizer panel shall be covered with a coating with a # 3 hardness value .

1.4.4 Backlight Requirements

1.4.4.1 General Requirements

The backlight assembly shall be designed to support field replacement at the customer site or authorized service center. The lamps shall have a continuous operating life of at least 40,000 hours at 25. The operating life is defined as having ended when the illumination of light has reached 50% of the initial value. The lamps shall extend a sufficient amount from the edge of the light guide that sputtering over the life of the lamps shall not cause degradation of the luminance uniformity (such as non-illuminated bands along the edges of the display).

1.4.4.2 Lamps Startup Time

The backlight lamps shall start about 2 sec of the time the monitor power switch is pressed or the monitor is restarted from a power - down mode .The starting time shall stay about 2 sec. for the minimum expected life of the lamps.

Test conditions are as follows :

Ambient Light ---------------------- < 1.0 lux

Temperature------------------------- 10℃

Inactive Time ---------------------- > 24 hours

1.4.5 Defects

1.4.5.1 Visual Inspection

The LCD panel shall be inspected with all pixels set to white,black , red , green , and blue. The color variation, brightness variation , and overall appearance must not be perceived as poor quality by Lite-On . Areas and / or parameters considered questionable shall be subjected to detailed measurements .

1.4.5.2 Display Degradation

Over the life of the product , variation of the parameters specified in Panel specification shall be maintained within reasonable limits.The panel must not exhibit any significant defects while in operation (excluding the CCFL operation).This does not in any way change the warranty given by the panel manufacturer .

1.4.5.3 Light Leakage

Except for the active display area , there shall be no light emission visible from any angle from any other part of the display . For this test , the ambient illumination must follow panel's specification.

1.4.5.4 Allowable Defects

No cosmetic defects are allowed except those specified below.The conditions of visual inspections are as follows For 24W Series.

- Viewing distance is to be approximately 35-50cm
- Ambient illumination is to be 300 to 700 lux.
- Viewing angle shall be at 90 degree.
- Defects not apparent within one minute shall be ignored.

1.4.5.5 Defect Terminology

Table 3 gives the descriptive terms used in classifying defects.

Dark / Spots / Lines	Spots or lines that appear dark in the display patterns and are usually the result of contamination. Defects do not vary in size or intensity (contrast) when contrast voltage is varied. Contrast variation can be achieved through the use of varying gray shade patterns.
Bright Spots / Lines	Spots or lines that appear light in the display patterns. Defects do not vary in size or intensity (contrast) when contrast voltage is varied. Contrast variation can be achieved through the use of varying gray shade patterns.
Polarizer Scratch	When the unit lights, lines appear light (white) with display patterns dark and do not vary in size. Physical damage to the polarizer that does not damage the glass
Polarizer Dent	When the unit lights, spots appear light (white) with display patterns dark and do not vary in size. Physical damage to the polarizer that does not damage the glass.
Rubbing Line	Horizontal or diagonal lines that appear gray with the display patterns dark and may have resulted from an "out of control" rubbing process on the polyimide or "waves" on the BEFs or prism sheets.
Newton Ring	The "rainbow" effect caused by non-uniform cell thickness.
Mottling	When the unit lights, variation / non – uniformity (splotchiness) appears light (white) with the display and might vary in size.
Dim Line	When the unit lights, line(s) in the monitor (vertical) or major (horizontal) axis appear dim, but not completely on or off.
Cross Lines Off	When the unit lights, lines in both the minor and major axis do not appear.
Bright / Dark Dot	A sub – pixel (R,G,B dot) stuck off / on (electrical).

1.4.5.6 Smudges, Streaks and Smears

When viewing the panel oriented so as to maximize reflected light , there shall be no visible smudging , streaking, smearing or other nonuniformity from contaminants ,fingerprints,or defects in any of the visible surfaces. This is independent of whether the unit is operating or off .

1.4.5.7 Other Defects

Undefined defects that are considered to be rejectable by Lite–On will be reviewed by Lite-On as they become apparent. These panels will be referred to the Lite - On Corporate / Manufacturer Purchasing Agreement for disposition.

1.4.5.8 LCD Inspection

Put LCD panel on inspection table and illuminate the panel with a daylight fluorescent lamp located above the panel surface such that the luminance at the LCD panel is between 1000 lux and 1500 lux .Defect limits are given in Table 4 .

Average Diameter smaller of (L+W)/2 or L/20+2W	Acceptable Number	Minimum Separation
< 0.1mm	Non countable	N / A
0.1 mm ~ 0.3 mm	10	15 mm
0.31 mm ~ 0.5 mm	10	15 mm
0.51 mm ~ 1.25 mm	5	15 mm
1.26 mm ~ 2.5 mm	3	25.4 mm
2.51 mm ~ 3.75 mm	3	25.4 mm
Greater than 3.75 mm	NONE	Not applicable

Note : Allowable distance between spots of two sizes is the minimum separation number for the smaller spot. Therefore, if there are two spots, 1.30mm and 0.4mm in diameter, they must be at least 15mm apart.

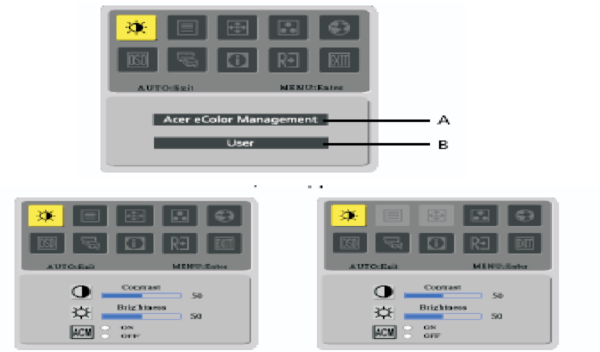
1.5 Optical Characteristics

Depends on the LCD supplier's spec. Details refer to QA Inspection Spec.

Go to cover page

2.1 MAIN OSD MENU

Outline:



I. Only Analog Input Model   II. Only Dual Input Model

The description for control function:

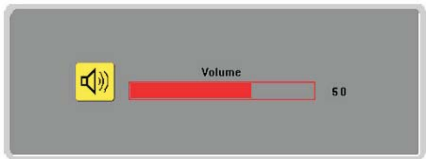
Main Menu icon	Sub Menu icon	Sub Menu item	Description
(Picture)	(Contrast)	Contrast	Adjust the contrast between the foreground and background of the screen image
	(Brightness)	Brightness	Adjust the background brightness of the screen image
	ACM	ACM	ACM (Adaptive Contrast Management)A CM ON/OFF Switch, default "OFF"
(Tracking)	(Focus)	Focus	Adjust picture Focus (available in analog mode only)
	(Clock)	Clock	Adjust picture Clock (available in analog mode only)

Main Menu Icon	Sub Menu Icon	Sub Menu Item	Description
(Position)	(H. Position)	H. Position	Adjust the horizontal position. (available in Analog mode only)
	(V. Position)	V. Position	Adjust the vertical position. (available in Analog mode only)
(Color)	N/A	Warm	Set the color temperature to warm white.
	N/A	Cool	Set the color temperature to cool white.
	R	User /Red	Adjusts Red/Green/Blue intensity.
	G	User /Green	
	B	User /Blue	
(Language)	N/A	English	Multi-language selection.
	N/A	繁體中文	
	N/A	Deutsch	
	N/A	Francais	
	N/A	Espanol	
	N/A	Italiano	
	N/A	简体中文	
	N/A	日本語	
	N/A	Suomi	EMEA version OSD only
	N/A	Nederlands	
	N/A	Pyccknn	

Main Menu Icon	Sub Menu Icon	Sub Menu Item	Description
OSD	(H. Position)	H. Position	Adjust the horizontal position of the OSD.
	(V. Position)	V. Position	Adjust the vertical position of the OSD.
	(OSD Timeout)	OSD Timeout	Adjust the OSD timeout.
(Input)	N/A	Analog	Select input signal from analog (D-Sub)
	N/A	Digital (only Dual-InputModel)	Select input signal from digital(DVI) (only Dual-Input Model)
	N/A	DDC/CI	Turn ON/OFF DDC/CI support
(Information)	N/A	Information	Show the resolution, H/V frequency andinput port of current input timing.
(Reset)	N/A	Reset	Clear each old status of Auto-configurationand set the color temperature to Cool.
EXIT	N/A	Exit	Save user adjustment and OSD disappear.

Hot-Key Menu

Outline: (With Audio Function)



The description for Hot-Key function:

Item	Operation	Icon	Description	Adjustment Range	Reset Value
Volume	When the OSD is Closed,Press left or right button will be Volume Hot-Key Function	(Speaker)	Volume of Audio adjustment The Audio will be Mute when Volume=0	0-100	50

OSD Message

Outline:

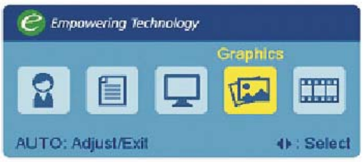


The description for OSD Message:

Item	Description
Auto config please wait	When user press Hot-Key "Auto" ,will show this message, and the monitor do the auto config function.
Input Not Suported	When the H sync Frequency, V sync Frequency or Resolution is out of the monitor support range, will show this message. This message will be flying.
Cable Not Connected	When the Video cable is not connected, will show this message. his message will be flying.
No Signal	When the Video cable is connected, but it is no active signal input, will show this message, then enter power saving.

scenario mode

- User mode
- Text mode
- Standard mode
- Graphics mode
- Movie mode



Final Spec

mode	contrast (OSD)	brightness (OSD)
standard	50 (slope 1)	77 (85%)
text	50 (slope 1)	44 (61%)
graphic	60 (slope 1.04)	97 (98%)
movie	58 (slope 1.025)	77 (85%)

Operation Method

Step1:
Press " key " to initial scenario mode

Step2:
press " < or > " to select the mode you want
(different mode will show different color instantly
(select operation only left and right, not cyclic)

Step3:
If user have NO action after Step2
OSD will disappear after 10 sec and do "auto scan"
(now the mode will keep original one, no change)

If user press " key " after Step2
it means user confirm the chosen mode and monitor will do "auto scan" as well
(then the mode is the chosen one)

DCC/CI switch in OSD



For Dual Input Model

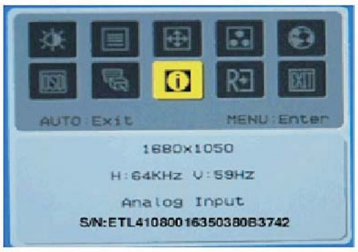


For Analog only Model

Remark:

1. The DDC/CI switch, default is "ON" in monitor.
2. For Analog only Model, use icon to instead of icon in OSD

Display Serial Number in OSD



Remark:

The SN data source can be retrieved from EDID

AppendixA ACER R17 Series

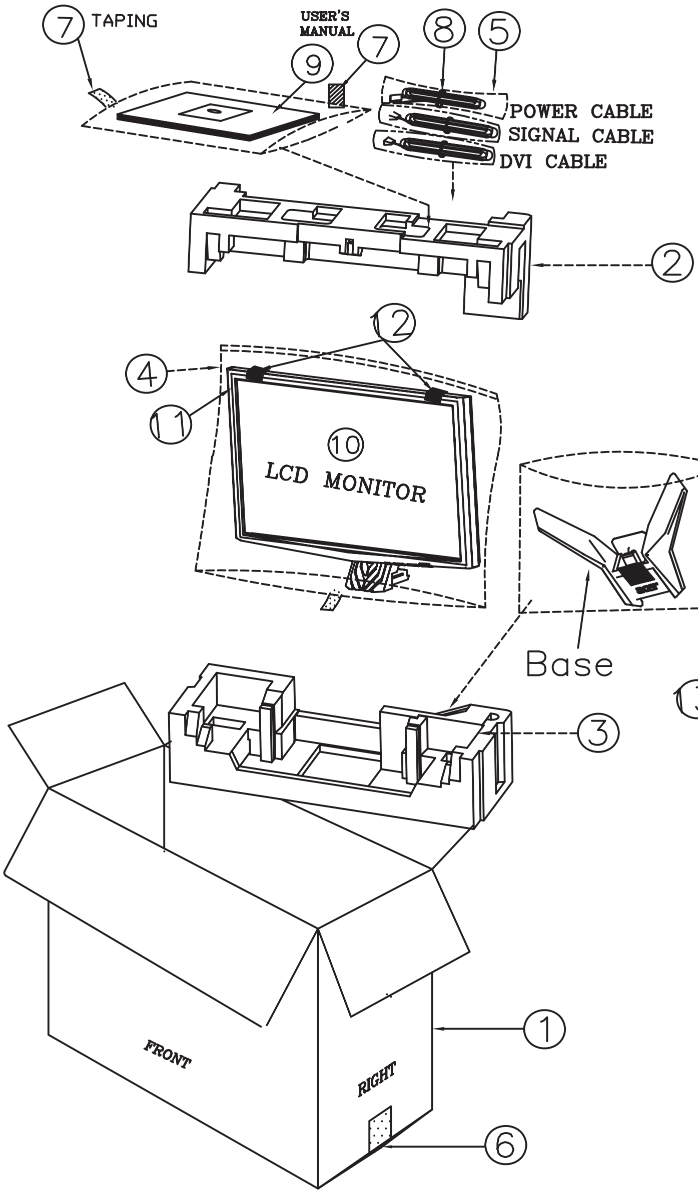
*Multiple Language

8-language contrastive table

English	Deutsch	Español	简体中文	繁體中文	Français	Italiano	日本語
Contrast	Kontrast	Contraste	对比度	對比	Contraste	Contrasto	コントラスト
Brightness	Helligkeit	Brillo	亮度	亮度	Luminosité	Luminosità	輝度
Focus	Fokus	Nitidez	相位	相位	Netteté	Nitidezza	フェイズ
Clock	Takt	Reloj	时序	時脈	Fréquence	Orologio	クロック
Warm	Warm	Càlido	暖色温	暖色溫	Chaud	Caldo	暖色
Cool	Kalt	Frio	冷色温	冷色溫	Clair	Freddo	寒色
User	Anwender	Usuario	使用者设定	使用者設定	Utilisateur	Utente	カスタムカラー
Red	Rot	Rojo	红色	紅色	Rouge	Rossa	赤
Green	Grün	Verde	绿色	綠色	Vert	Verde	緑
Blue	Blau	Azul	蓝色	藍色	Bleu	Blu	青
English	English	English	English	English	English	English	English
H. Position	H. Position	H. Posicion	水平位置	水平位置	H. Position	O. Posizione	水平位置
V. Position	V. Poisition	V. Posicion	垂直位置	垂直位置	V. Position	V. Posizione	垂直位置
OSD Timeout	OSD-Dauer	T. de espera OSD	OSD 显示时间设定	OSD 顯示時間設定	Délai de l'OSD	Intervallo OSD	OSD 表示時間設定
Analog	Analog	AnalÓgico	模拟	類比	Analogique	Analogico	入力 アナログ
Digital	Digital	Digital	数位	數位	Numér	Digitale	入力 デジタル
Reset	Rücksetzen	Reiniciar	恢复出厂模式	恢復出廠模式	Restaurer	Resetare	リセット
Exit	Beenden	Salida	退出菜单	結束調整	Quitter	Uscita	終了
AUTO : Exit	AUTO : Beenden	AUTO : Salida	AUTO : 退出菜单	AUTO : 結束調整	AUTO : Quitter	AUTO : Uscita	AUTO : 終了
AUTO : Return	AUTO : Zurück	AUTO : Volver	AUTO : 返回	AUTO : 返回	AUTO : Retour	AUTO : Ritorno	AUTO : 戻る
Volume	Lautstärke	Volumen	音量	音量	Volume	Volume	音量
No Signal	Kein Signal	Sin señal	无讯号	無訊號	Pas de signal	Assenza segnale	入力信号を確認してください
Auto Config	Autom. Abgl.	Autoajuste	自动调整	自動調整	Autoréglage	Autoregolazione	自動調整
MENU : Enter	MENU : Eingabe	MENU : Introducir	MENU : 进入	MENU : 進入	MENU :Entrez	MENU : Invio	MENU : 選択
MENU : Return	MENU : Zurück	MENU : Salida	MENU : 返回	MENU : 返回	MENU : Retour	MENU : Ritorno	MENU :戻る
Input Not	Frequenzen nicht	Frequencias no	输入	不支援	Fréquences non	Frequenza non	このモードは表示で
Supported	unterstützt	soportadas	不支援	輸入訊號	supportées	supportata	きません
Connected	angesch lossen	Connectado	连接	連接	connecte	connesso	いません
Cable Not	Leituna nicht	Cable no	无讯号线	無訊號線	Cable non	Cavo non	ケーブルが接続されて
Please Wait	Bitte Warten	Espere por favor	请稍待	請稍待	Veuillez patienter	Attendere prego	お待ちください
Digital Input	Digital Eingang	Digital Entrada	数位输入	數位輸入	Numérique Entrée	Digitale Input	デジタル入力
Analog Input	Analog Eingang	AnalÓgico Entrada	模拟输入	類比輸入	Analogique Entrée	Analogico Input	アナログ入力
User	Gebruiker	Usuario	用户	使用者	Utilisateur	Utente	ユーザー
Text	Tekst	Texto	文本	文字	Texte	Testo	テキスト
Standard	Standaard	Estándar	标准	標準	Standard	Standard	標準
Graphics	Grafische	Gráficos	图形	圖形	Images	Grafica	グラフィックス
Movie	Film	Película	电影	電影	Film	Film	ムービー
AUTO: Adjust/Exit	AUTO: Aanpassen/verlaten	AUTO: Ajuste/salir	AUTO: 调节/退出	AUTO: 調整/結束	AUTO: Ajuster/Quitter	AUTO: Regola/Esci	AUTO: 調整/終了
◄►: Select	◄►: Selecteren	◄►: Seleccionar	◄►: 选取	◄►: 選擇	◄►: Sélectionner	◄►: Seleziona	◄►: 選択

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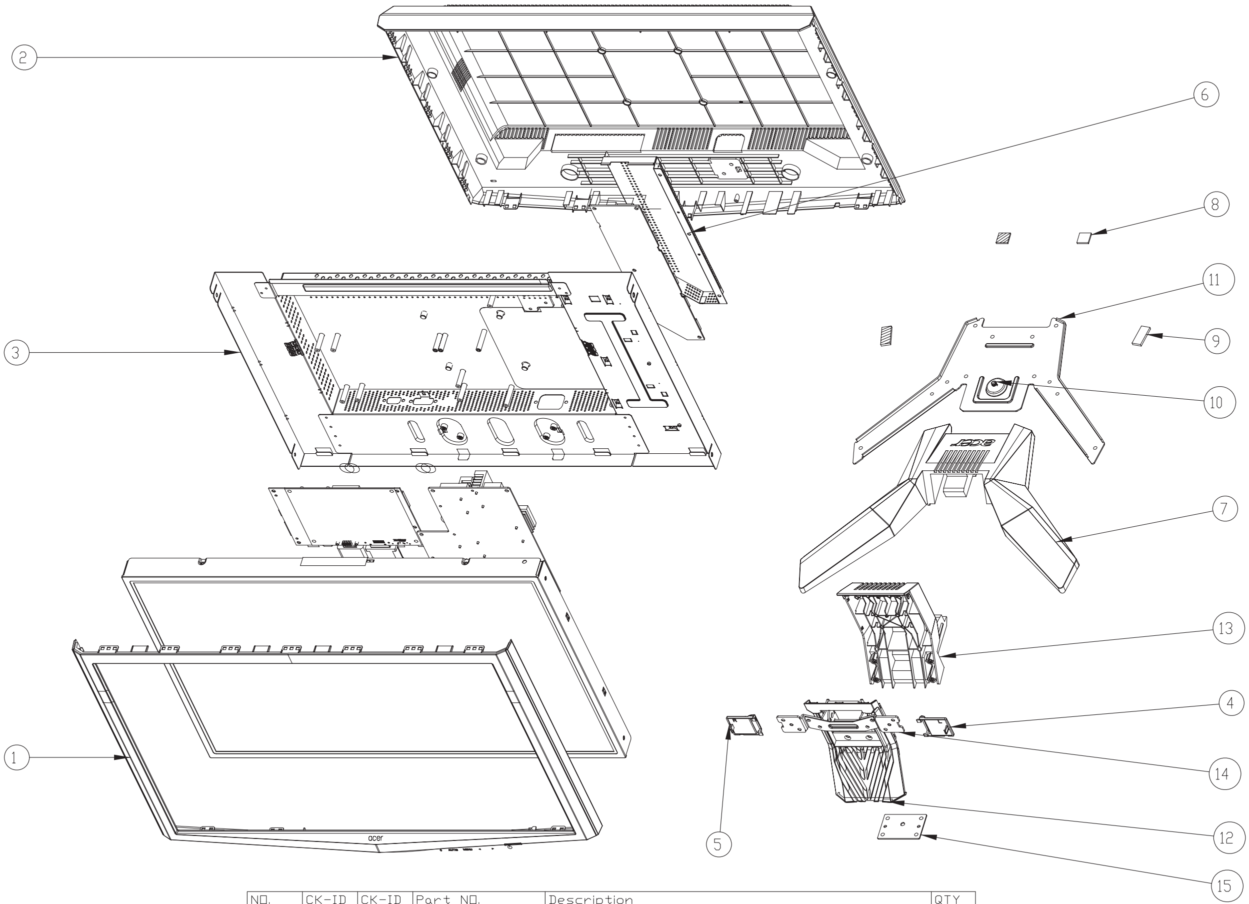
3.1 Packing Exploded Diagram



ITEM	QT'Y	PART NO	DESCRIPTON	DRAW NO	REMARK
①	1	774920xxxxP0A	CARTON	834000XXXX	
②	1	7749107440P0A	EPS-TOP	8340008264	
③	1		EPS-BOTTOM		
④	1	7749003260P0A	LDPE+EPE BAG	8340005421	LCD MONITOR
⑤	1	7749001280P0A	P.E. BAG	8440004238	SIGNAL CABLE
⑥	0.002	7749600850P0A	TAPE		914M
⑦	0.015	7749600200P0A	TAPE	8440004216	25mm(W)
⑧	1		WIRING TIES		250x2.5mm
⑨	1		USER'S MANUAL		
⑩	1		LCD MONITOR		
⑪	1	773020xxxxP0A	screen protect card		
⑫	2	7749600770P0A	TAP		
⑬	1	7749002160P0B	EPE bag		

remark: if the BOM for Japan ,then 7749600770P0A&7749600200P0A must be changed to 7749600680P0C

3.2 Product Exploded Diagram



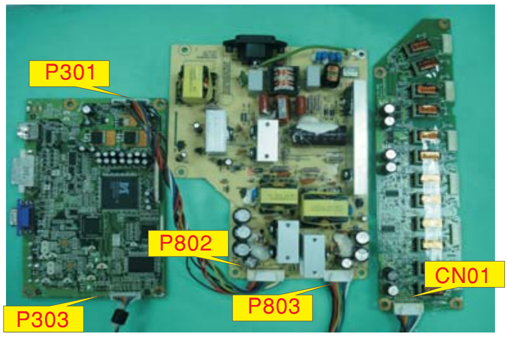
NO.	CK-ID	CK-ID	Part NO.	Description	QTY
1	06F01		7737515757P0A	F/C ASS'Y	1
		06FA1	7742238754P0A	F/C	1
		06FB1	7742807981P0A	Key Button	1
		06FC1	7742302900P0A	Led Lens	1
		06FD1	7742613831P0A	Side Cover-L	1
		06FE1	7742613841P0A	Side Cover-R	1
		06FF1	7742404901P0A	Acer Logo	1
2	06B01		7737612052P0A	R/C ASS'Y	1
		06BA1	7742238852P0A	R/C(DVI,VGA)	1
		06BB1	7749600900P0A	TAPE	1
3	06L01		7737811301P0A	Bracket ASSY Shield Cover	1
		06LA1	7748713871P0A	Bracket Shield Cover SGCC0.8T	1
		06FB1	7746504810P0B	Insulator 158*138*6.8mm	1
		06FC1	7748000710P0A	GROUND GOLD 42*15*5mm	4
		06FD1	7746505620P0A	BUSHING BRACKET 10*10*6.8mm	1
		06FE1	7742004960P0A	SPONGE METAL EMI 500*10*10mm	1
		06FF1	7748000301P0A	GROUND GOLD	1
		06FG1	7746505850P0A	INSULATOR 170*15*0.25mm	1
		06FH1	77476403560P0A	HEAT SINK	1
		06FI1	7110330062P0A	SCREW M3-6	2
4	6L01A		7742617161P0A	Hinge Cover-L	1
5	6L01B		7742617171P0A	Hinge Cover-R	1
	6L01C		7110330062P0A	SCREW MACHINE-FLAT HEAD M3-3-NI	4
	6L01D		7110730082P0A	SCREW MACHINE MONE HEX WASHER M3-8	4
	6L01E		7110340101P0B	SCREW MACH MONE FLAT M4X10 ZINE	4
	6L01F		7140330103P0A	SCREW DOUBLE THREAD FLAT M3_10L BLACK	2
	6L01G		7111230061P0A	SCREW MACH FLAT WASHER PAN M3X6 ZN	12
	6L01H		7116240081P0A	SCREW MACH START WASHER PAN M4-8-ZN	1
	6L01I		7140440083P0A	SCREW DOUBLE THREAD MONE BINDING HEAD M4-8L	3
	6L01J		7111230031P0A	SCREW MECHINE WASHER PAN M3-3	4
6	6L01O		7748713890P0A	BRACKET INVERTER SHIELD OOVER SGCC 0.8T	1
	6L01P		7110330052P0A	SCREW MACHINE FLAT HEAD M3-5-NI	2
	6L01Q		7746505810P0A	INSULATOR 235*160*0.25MM	1
	6L01R		7131230061P0A	SCREW TRIANGLE FLAT WASHER PAN M3-6-ZN	1
	OV240		68142400301P0A	LCD 24W_LM240CT03-3400g	1
	0TAP1		6876010100P00	ALUMINUM	1.25
7	08C01		7737718900P0A	BASE Cover ASSY	1
		8C01A	7740412900P0A	Base Cover	1
		8C01B	7740412910P0A	Base-L	1
		8C01C	7740412920P0A	Base-R	1
	08C02		7140340101P0A	SCREW M4-10 Base & Base Plate	10
8	08C03		7742006210P0A	RUBBER-A (15*15*2.0MM)	2
9	08C04		7742006220P0A	RUBBER-B (30*12*3.0MM)	2
10	08C05		7110160104P0A	Base Screw	1
11	08C06		7748714780P0A	Base Plate SECC1.6T	1
12	08C07		7742614240P0A	Arm-F/C	1
13	08C08		7742614250P0A	Arm R/C	1
14	08C09		7738001340P0A	Hinge	1
15	08C10		7748714770P0A	Base lock Plate	1
	08C11		7140330101P0A	SCREW M3-10 ARM F/C,R/C	4
	08C12		7140340141P0A	SCREW M4-14 Hinge & Arm R/C	6
	08C13		7140340101P0A	SCREW WASHER FLAT HEAD	1

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4.1 Assembly procedures:

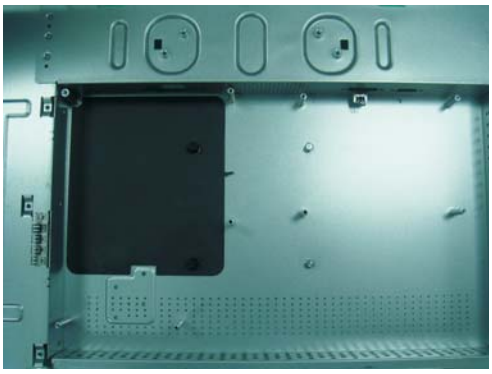
S1

Connect the cable between power board(P802) and interface board (P301)
Connect the function key cable into interface board(P303)
Connect the cable between power board(P803)and inverter board (Cn001)
Connect the FFC cable into interface board



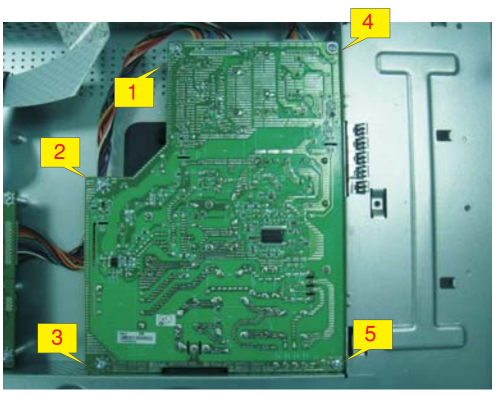
S2

Take a bracket chassis base on a protective cushion and stick an insulator on the specific position, take a power board and turn it over. Then, put it on the specific positions of bracket chassis base.



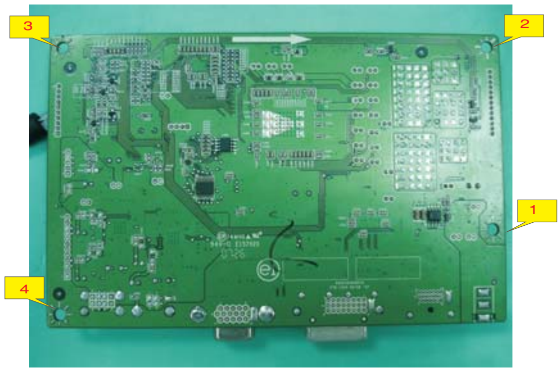
S3

Use a Phillips-head screwdriver screwed the No.1~5 screws till that power board and bracket chassis base firmly attached.(No1~4 screw size=M3x6; No5 screw size=M4x8; Torque=9~10KGFxCM).



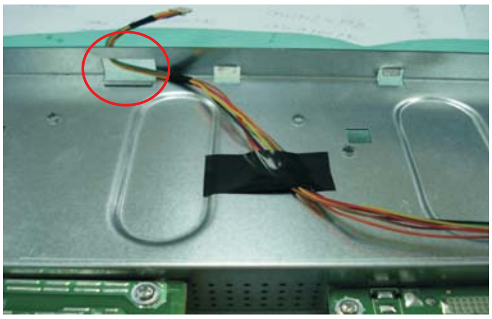
S4

Use a Phillips-head screwdriver screwed the No.1~4 screws till that interface board and bracket chassis base firmly attached.
(No1~4 screw size=M3x6; Torque=9~10KGFxCM).



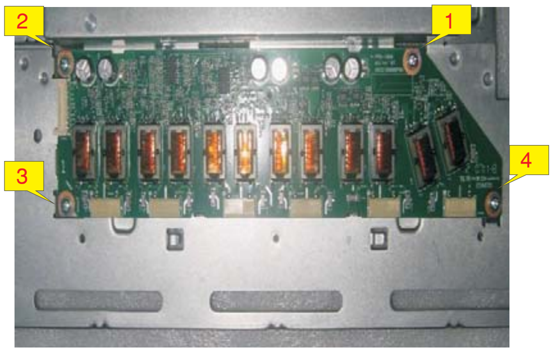
S5

Take the key function cable out from the hole shown as photo
Fix the function key cable with a PVC tape



S6

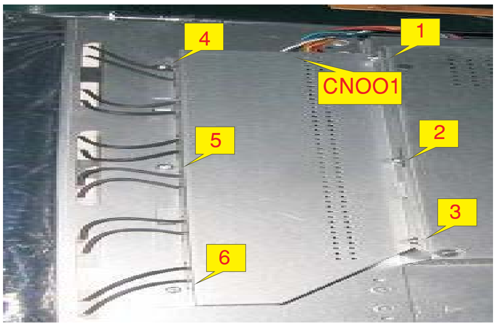
Turn over the bracket chassis base then fix the inverter board
Use a Phillips-head screwdriver screwed the No.1~4 screws till that inverter board and bracket chassis base firmly attached.
(No1~4 screw size=M3x6; Torque=9~10KGFxCM).



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S7

Connect cable into inverter board(CN001)
Take an inverter shielding bracket to cover the inverter board
Use a Phillips-head screwdriver screwed the No.1~6 screws till that inverter shielding bracket and bracket chassis base firmly attached.
(No1~6 screw size=M3x4; Torque=9~10KGFxCM).



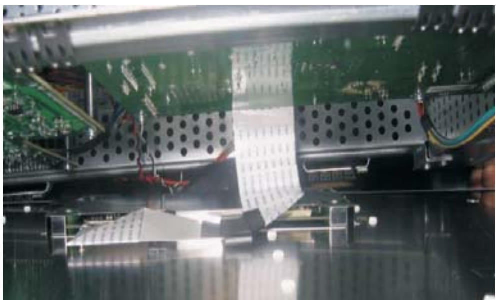
S8

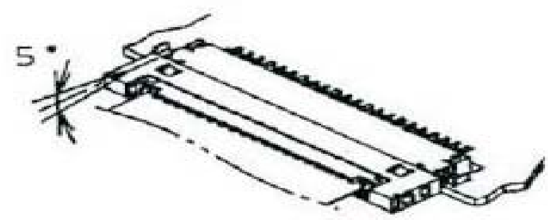
Connect the FFC cable to the connector of the LCD panel.



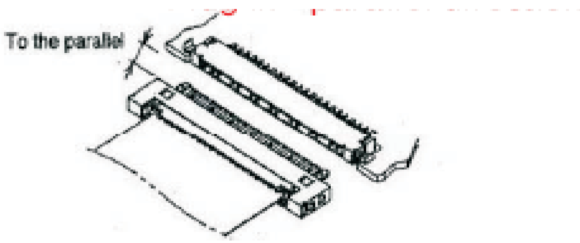
S9

Turn the monitor faced down and put it on the bracket chassis module till both parts firmly Connect FFC cable to LCD panel. There are two locks over here when plugging in should be noticed





Plug in parallel direction



Angel < 5 degrees

S10

Take lamp cables out from the holes shown as the photo.



S11

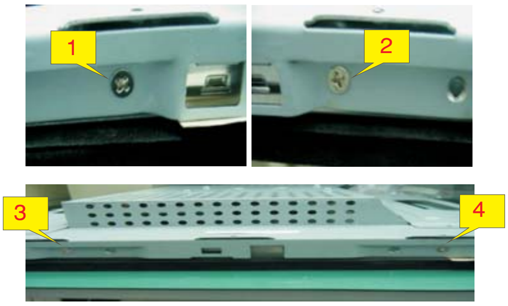
Plug 6 lamp cables to the connectors of inverter board.



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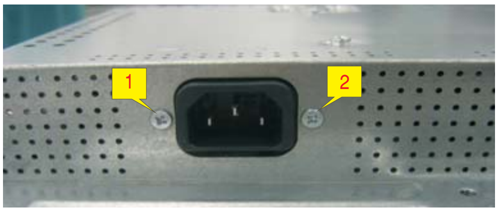
S12

Use a Phillips-head screwdriver screwed the No.1~4 screws on both side and assemble the LCD panel and bracket chassis module. (No1~4 screw size=M3x6; Torque=2.5±0.5KGFxCM).



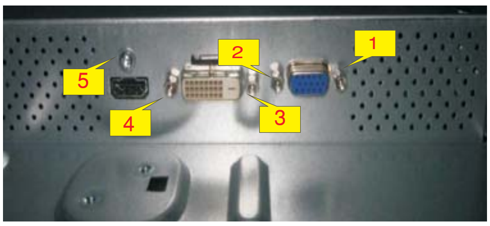
S13

Use a Phillips-head screwdriver screwed the No.1~2 screws. (No1~2 screw size=M4x10; Torque=5~7KGFxCM).



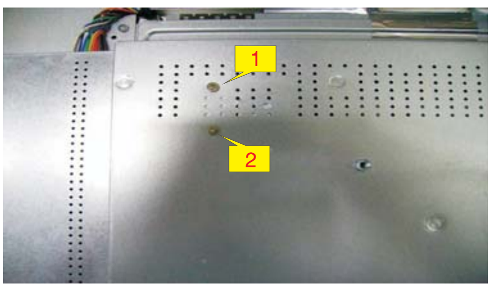
S14

Use a Hex-head and Phillips-head screwdriver screwed the DVI , D-SUB and HDMI connectors (No.1~4 Hex Nut screws Size=M3x8;Torque=6.5±0.5KGFxCM). (No.5 screw size=M3x8; Torque=6.5±0.5KGFxCM).



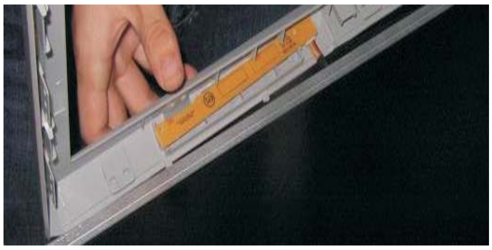
S15

Use a Phillips-head screwdriver screwed the No.1~2 screws. (No1~2 screw size=M3x6; Torque=5~7KGFxCM).



S16

Take a key function board to hook with front bezeland connect to key function cable.



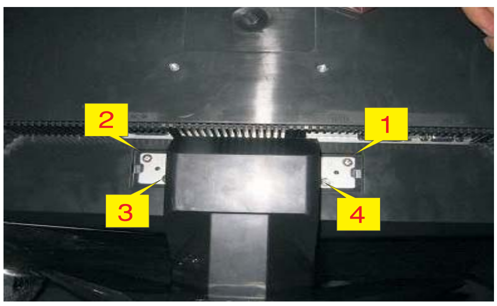
S17

Put a rear cover on the assembled unit and press on force mechanisms locked and firmly attached.



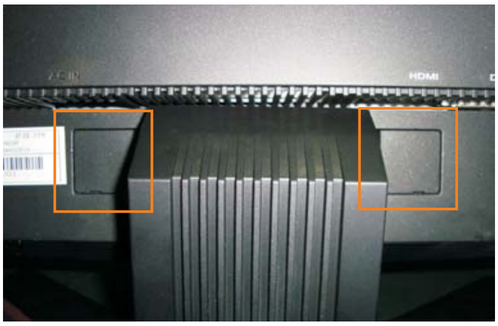
S18

Assemble the stand upper side to the rear cover through the way of screwing 4 screws till both units firmly attached. (No1~4 Screw Size=M4x10; Torque=13 1KGFxCM).



Go to cover page

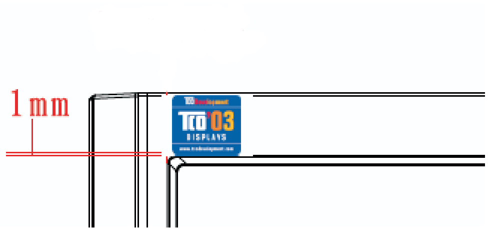
S19 Assemble the hinge cover into both two sides



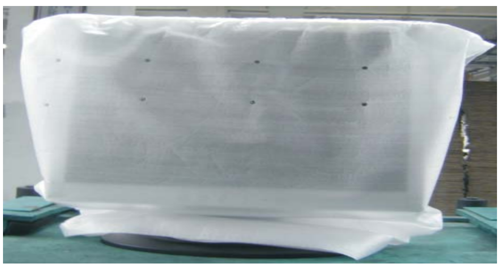
S20 Stick a screen card on the front bezel with two tapes.



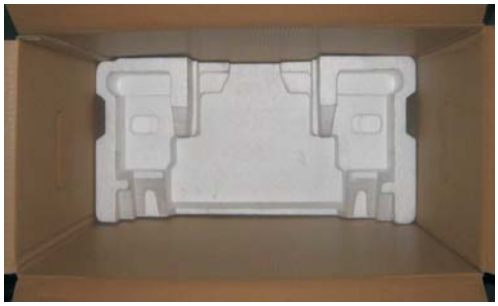
S21 Stick Vista and TC003 label on the correct position the same as below photo



S22 Take a LDPE+EPE bag to cover the LCD monitor.

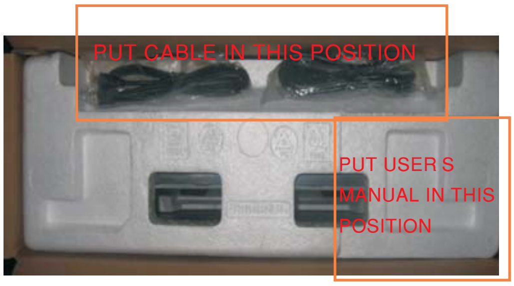


S23 Take two cushion foams; one is held the above side of LCD monitor, and another is held the below side.





S24 Put accessories of stand, DVI cable, and user's manual ,power cable on specific positions as photo below.



S25 Move previous assembled parts into the carton then stick Vista and feature label on the carton then packing the carton



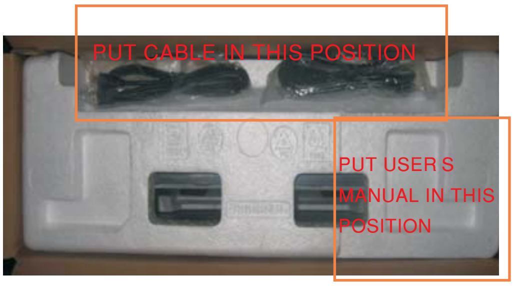
Go to cover page

4.2 Disassembly procedures

S1 Open the carton with a proper tool.

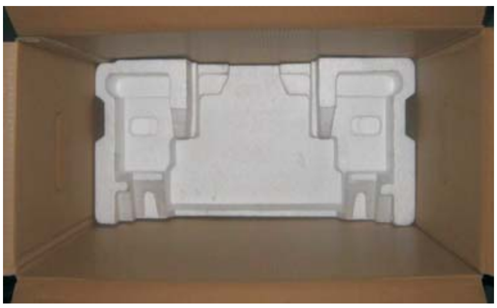


S2 Take out all accessories including D-SUB cable power cable, DVI cables, user's manual, and packing material from the carton.
(Note: It depends on whether users returning the accessories.)



S3 Take off two cushion foams



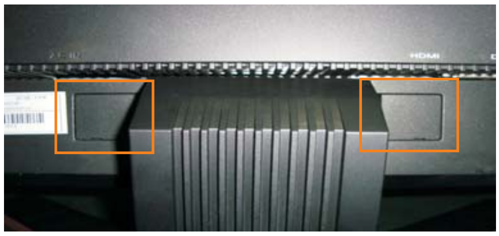


S4 Put returned unit on a protective cushion,then remove LDPE+EPE bag.
Tear off tapes to remove the screen protector card then turn over the LCD monitor (screen faced down),

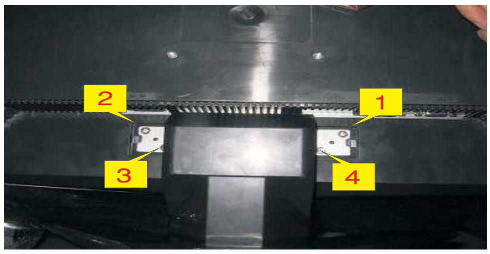




S5 Disassemble the stand cover.



S6 Use a Phillips-head screwdriver unscrew 4 screws to release the stand base.
(No1~4 Screw Size=M4x10;
Torque=13±1KGFxCM).



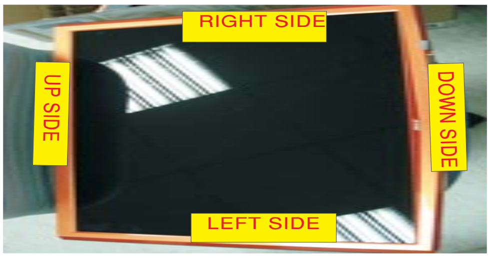
S7 Turn over the LCD monitor (screen faced up).



Go to cover page

S8

Put the dissembled monitor closed to by myself



Wedge your finger between the front bezel and the panel, then pry up on the front bezel to disengage the locking mechanism.



Insert steel rule between panel and front bezel .Using properly force to let the locking mechanism of front bezel and rear cover separated



Separating all of the locking mechanism of the front bezel in turn







S9

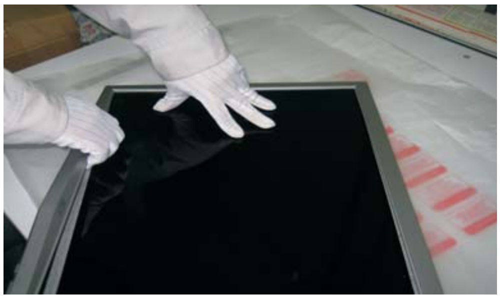
Hold the one upside corner of the front bezel after separating the upside of the front bezel
Using properly force to pull up front bezel that will let the locking mechanism of left side, right side and down side separated





S10

Hold one side of down side that had been separated from front bezel
Use properly force to pull up front bezel





S11

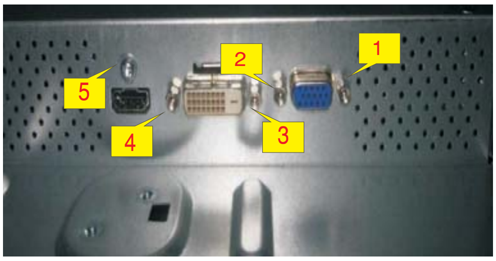
Unhook the key function board from front bezel, disconnect the key function cable



Go to cover page

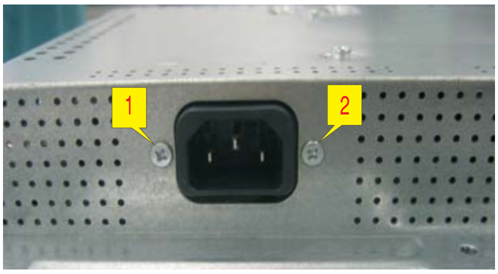
S12

Use a Hex-head screwdriver unscrewed 5 screws to release the DVI ,D-SUB and HDMI connectors
(No1~4Hex Nut screws
Size=M3x8;Torque=6.5±0.5KGFxCM).
(No.5 screw size=M3x8; Torque=6.5±0.5KGFxCM).



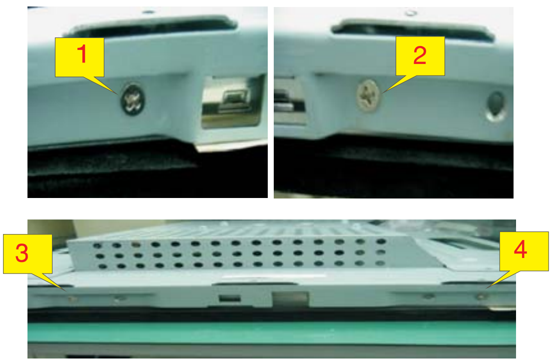
S13

Use a Phillips-head screwdriver unscrewed the No.1~2 screws to lease power plug
(No1~2 screw size=M3x10; Torque=5~7KGFxCM).



S14

Use a Phillips-head screwdriver unscrewed the No.1~4 screws to disassemble the LCD panel and bracket chassis module.
(No1~4 screw size=M3x6;
Torque=2.5±0.5KGFxCM).



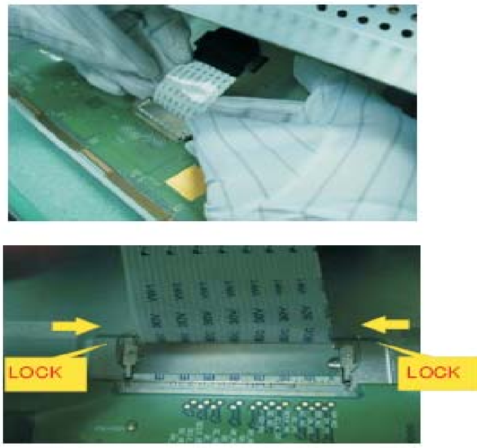
S15

Unplug 6 lamp cables



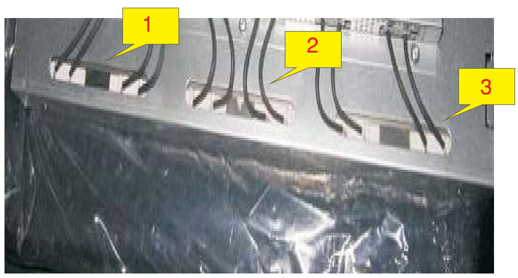
S16

Disconnect the FFC cable to the connector of panel.
Use finger to push the lock according to arrow direction then take out the FFC cable



S17

Take out lamp cables right through the No.1-3 square holes and separate the bracket chassis module and LCD panel apart.



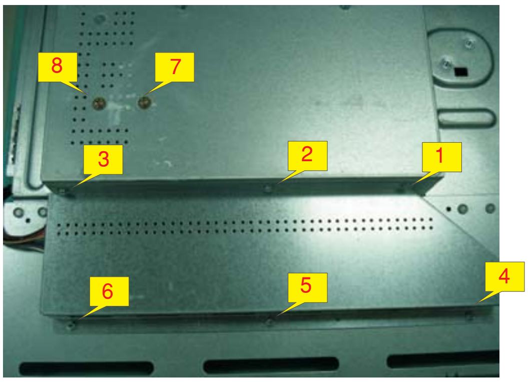
S18

Examine the panel surface accoring to inspection criteria. Put it aside.



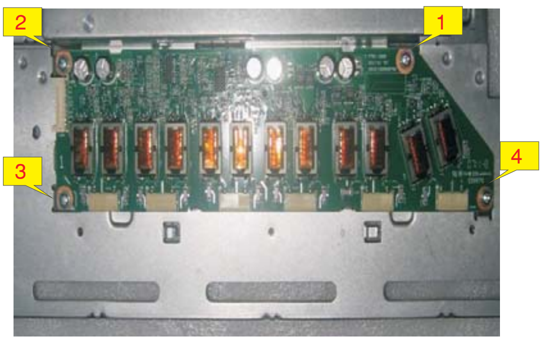
S19

Disconnect the cable from inverter board
Use a Phillips-head screwdriver unscrewed the No.1~8 screws
(No1~6 screw size=M3x4; Torque=9~10KGFxCM).
(No7~8 screw size=M3x6; Torque=5~7KGFxCM).
Remove inverter shielding bracket



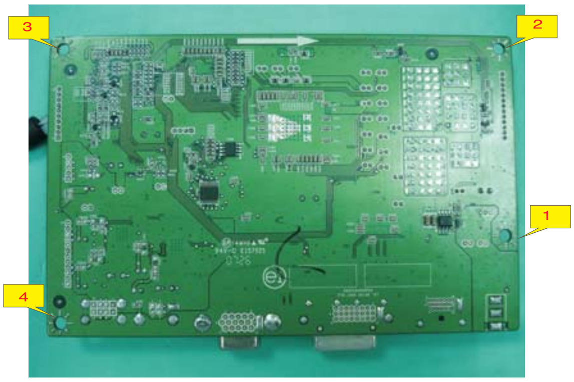
S20

Use a Phillips-head screwdriver unscrewed the No.1~4 screws
(No1~4 screw size=M3x6; Torque=9~10KGFxCM).
Remove the inverter board



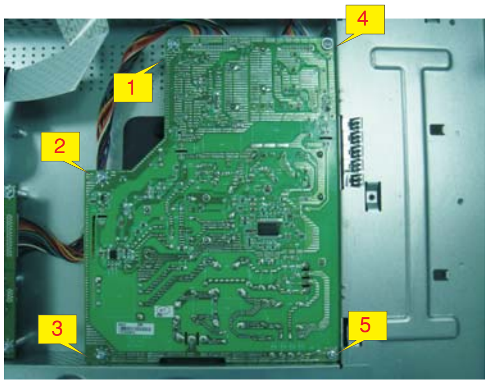
S21

Use a Phillips-head screwdriver unscrewed the No.1~4 screws to release the interface board.
(No1~4 screw size=M3x6; Torque=9~10KGFxCM).



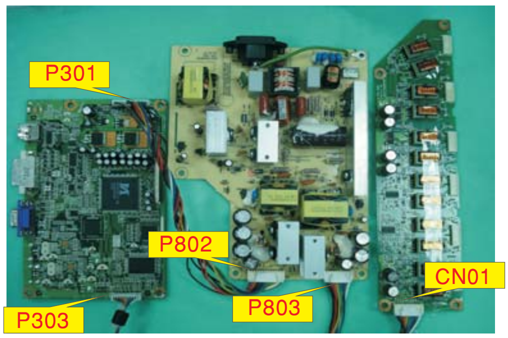
S22

Use a Phillips-head screwdriver unscrewed the No.1~5 screws to disassemble the power board.
(No 1~4 screw size=M3x6; No 5 screw size=M4x8; Torque=9~10KGFxCM).



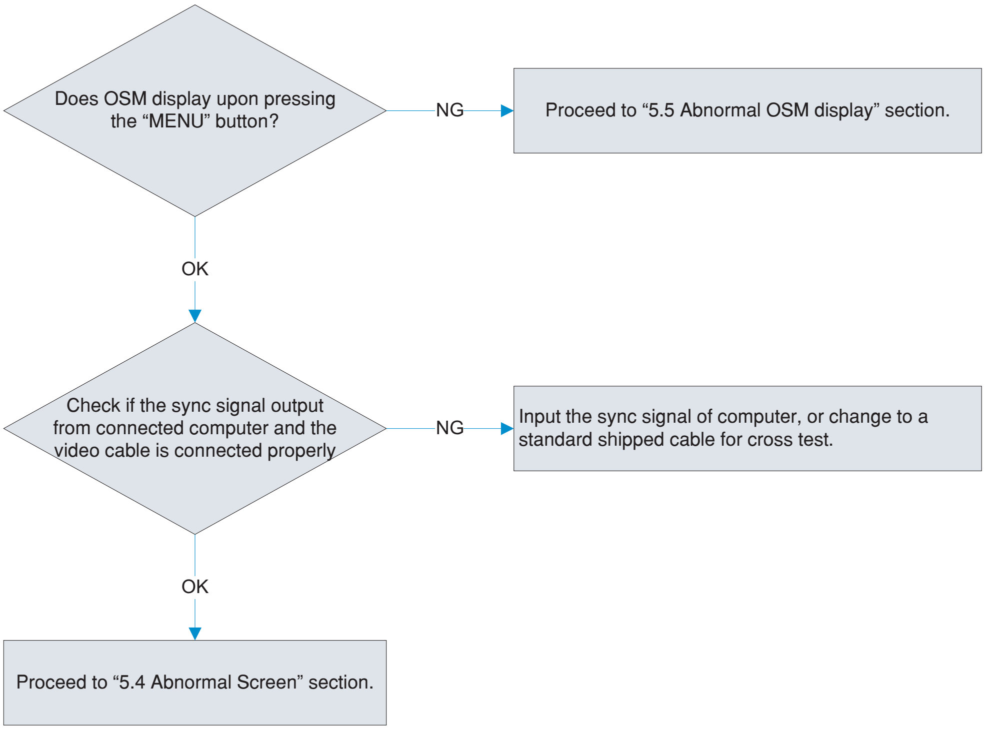
S23

Disconnect all of the cable

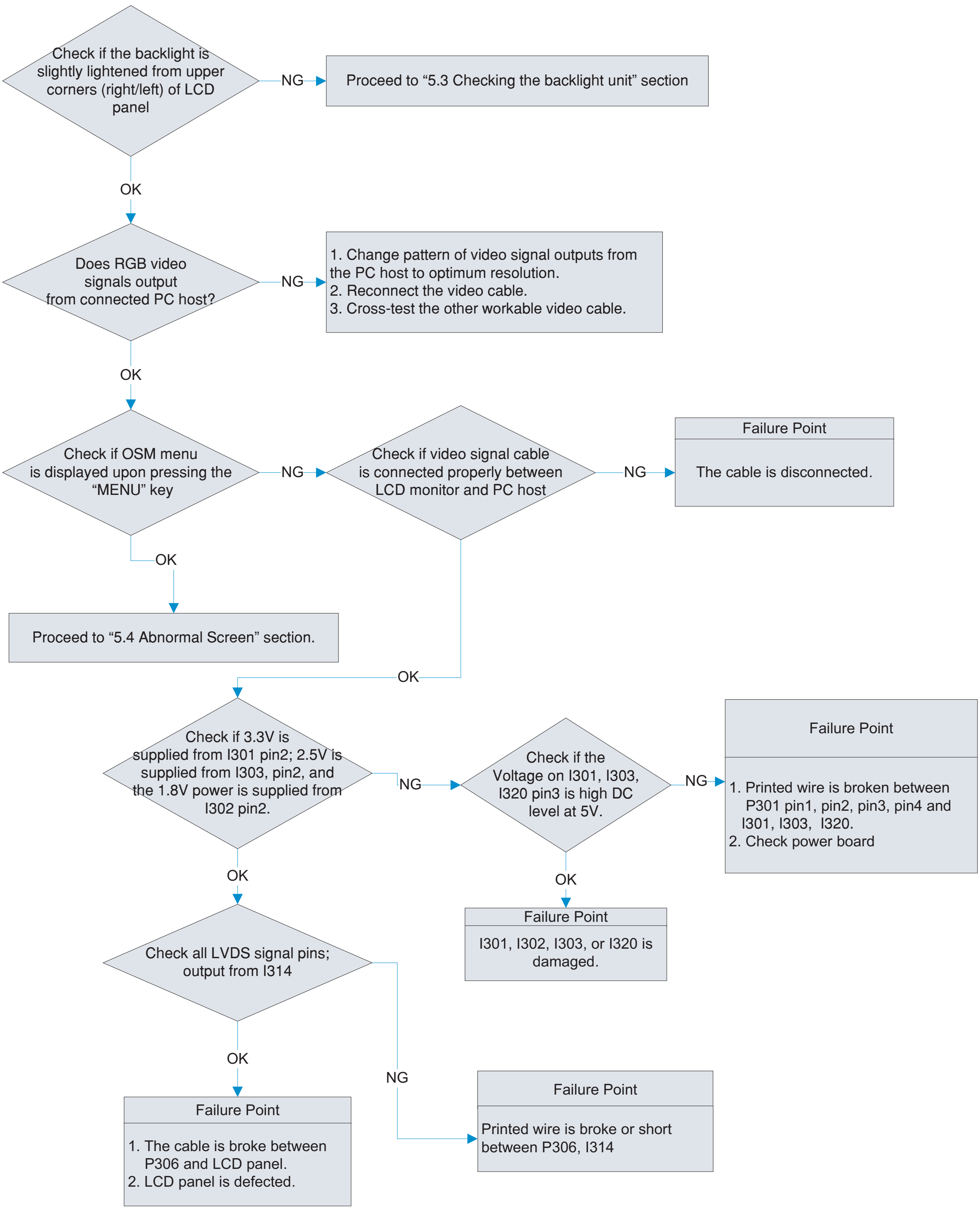


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5.1 No display on the screen (Screen is black and colour of LED is amber.)

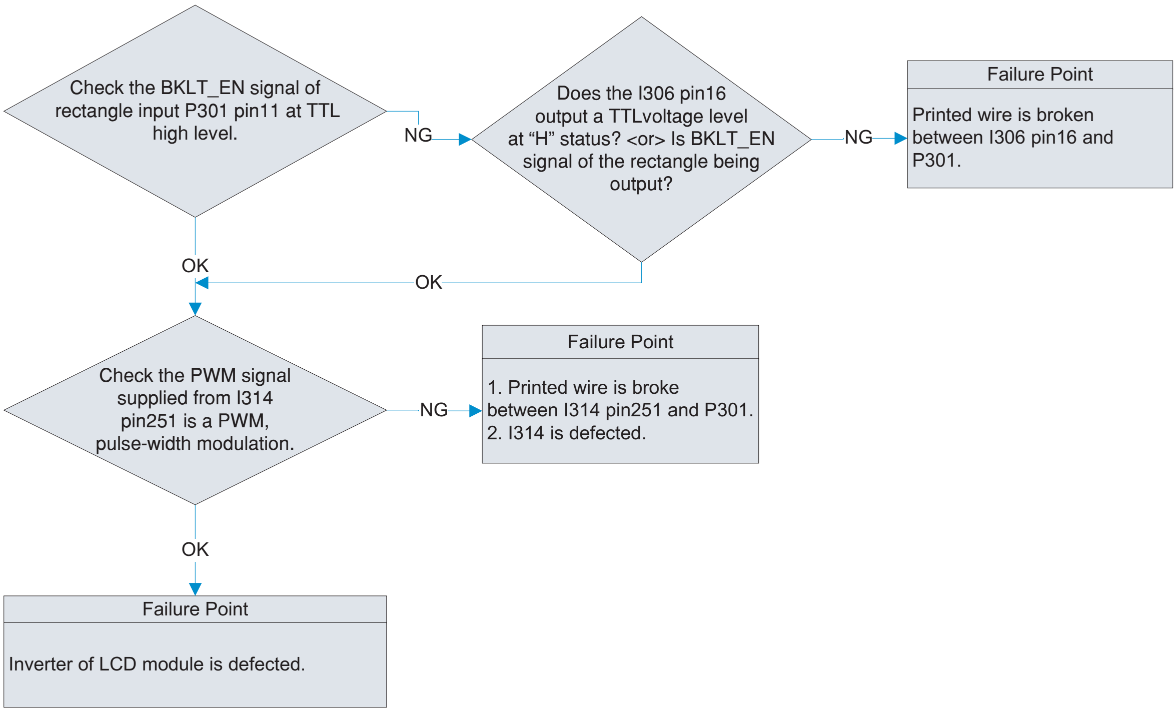


5.2 Nothing displays on the screen (Screen is black and colour of LED is blue.)

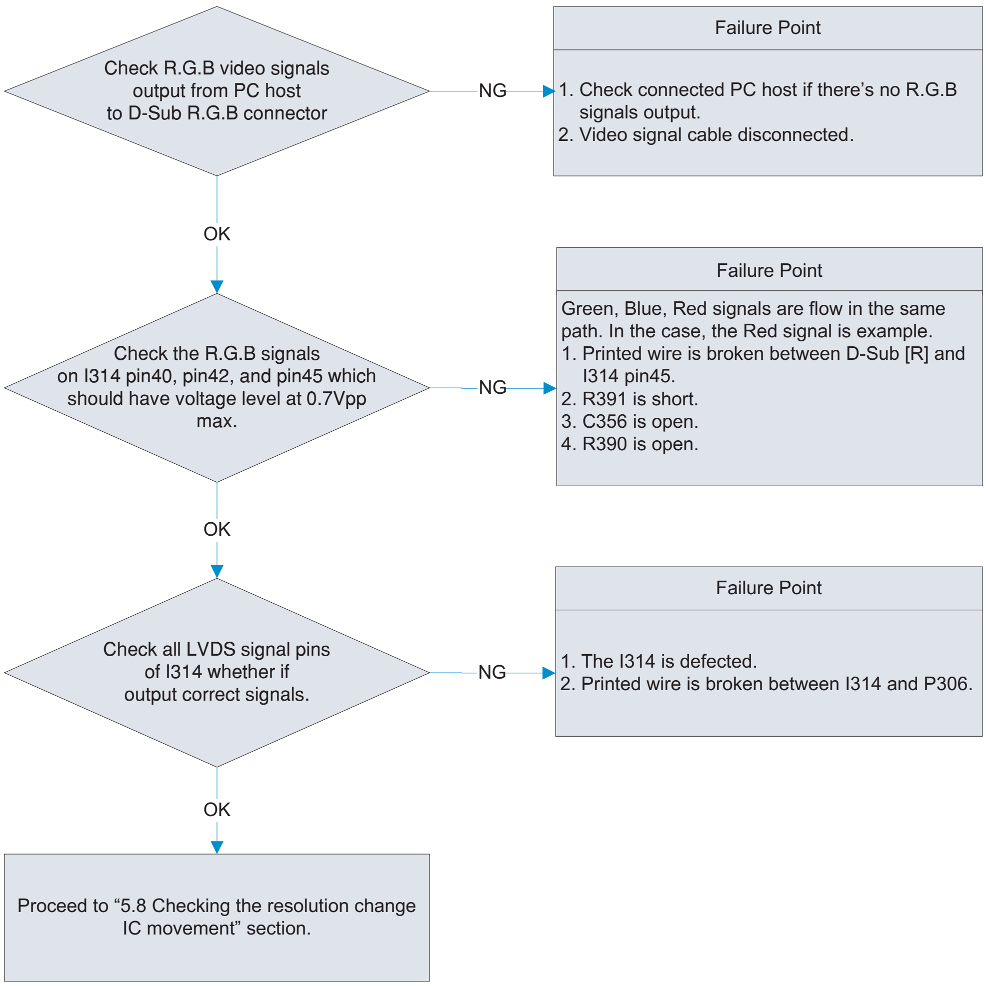


Go to cover page

5.3 Check the backlight unit

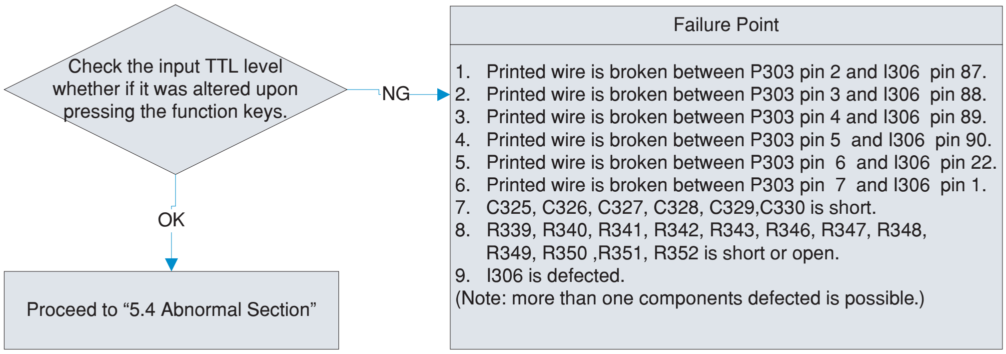


5.4 Abnormal Screen:



Go to cover page

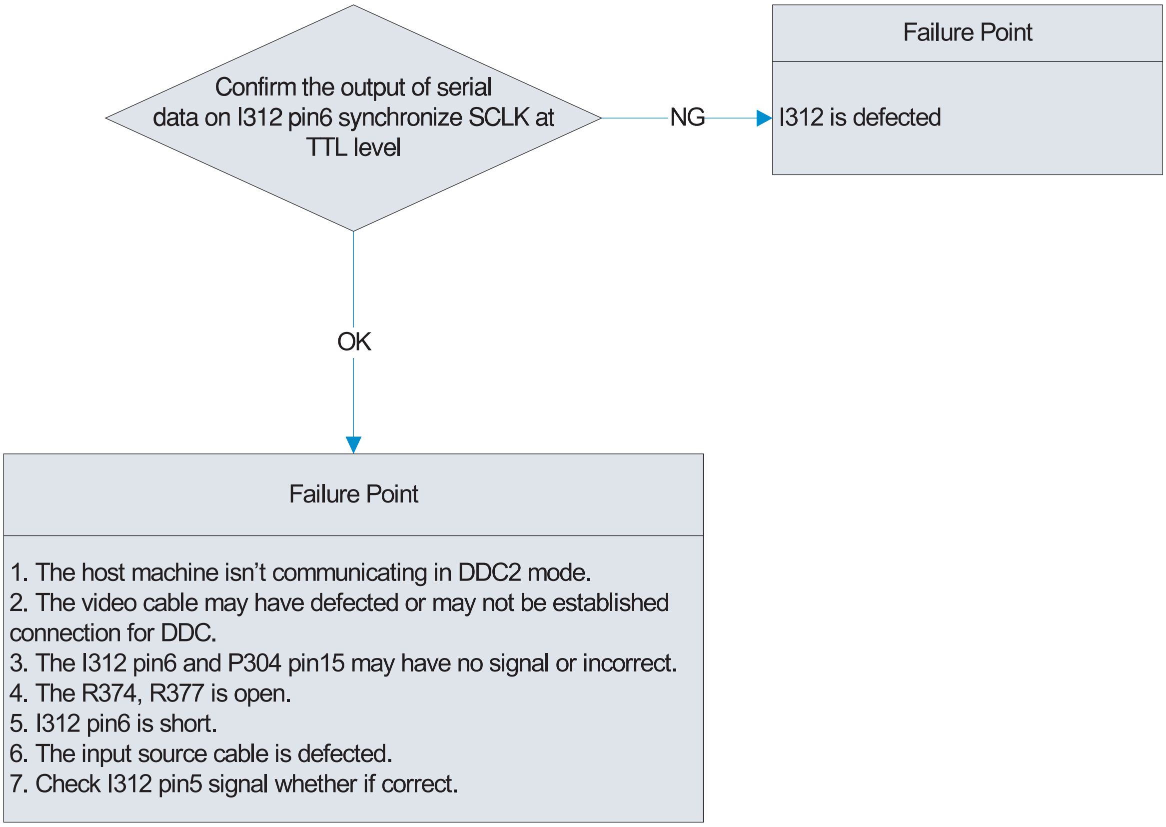
5.5 Abnormal OSM display - OSD Adjusment Problem



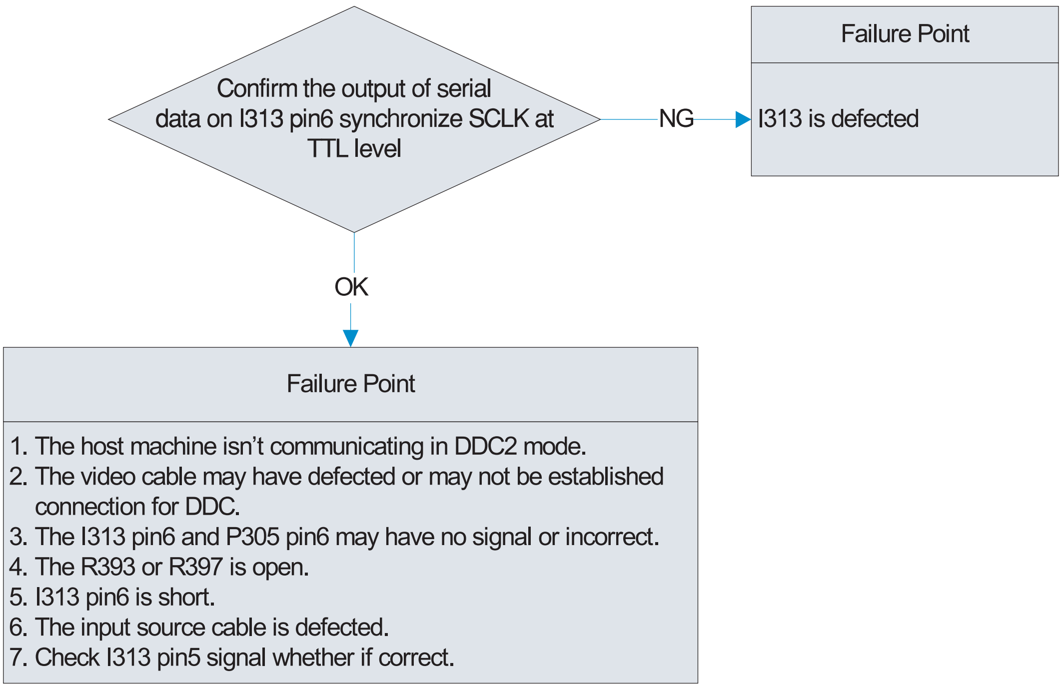
Go to cover page

5.6 Abnormal Plug and Play Operation

5.6.1 Abnormal DDC2 (D-SUB)



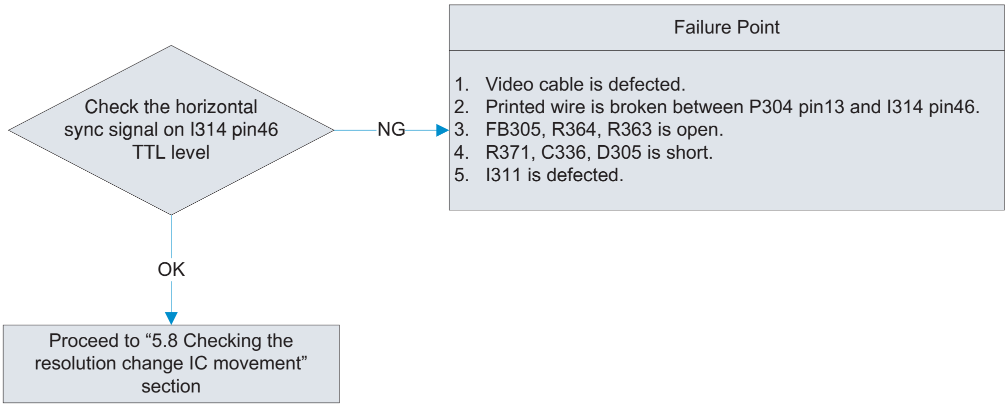
5.6.2 Abnormal DDC2 (DVI)



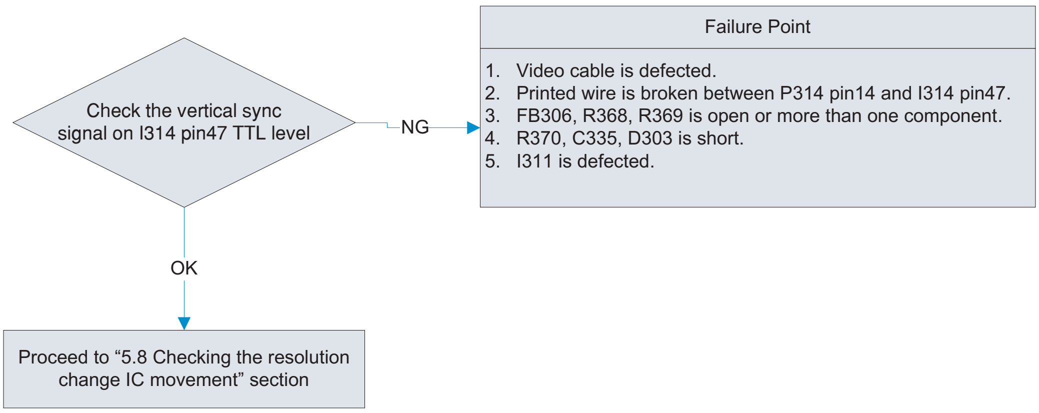
Go to cover page

5.7 Checking the interface circuit of sync signal

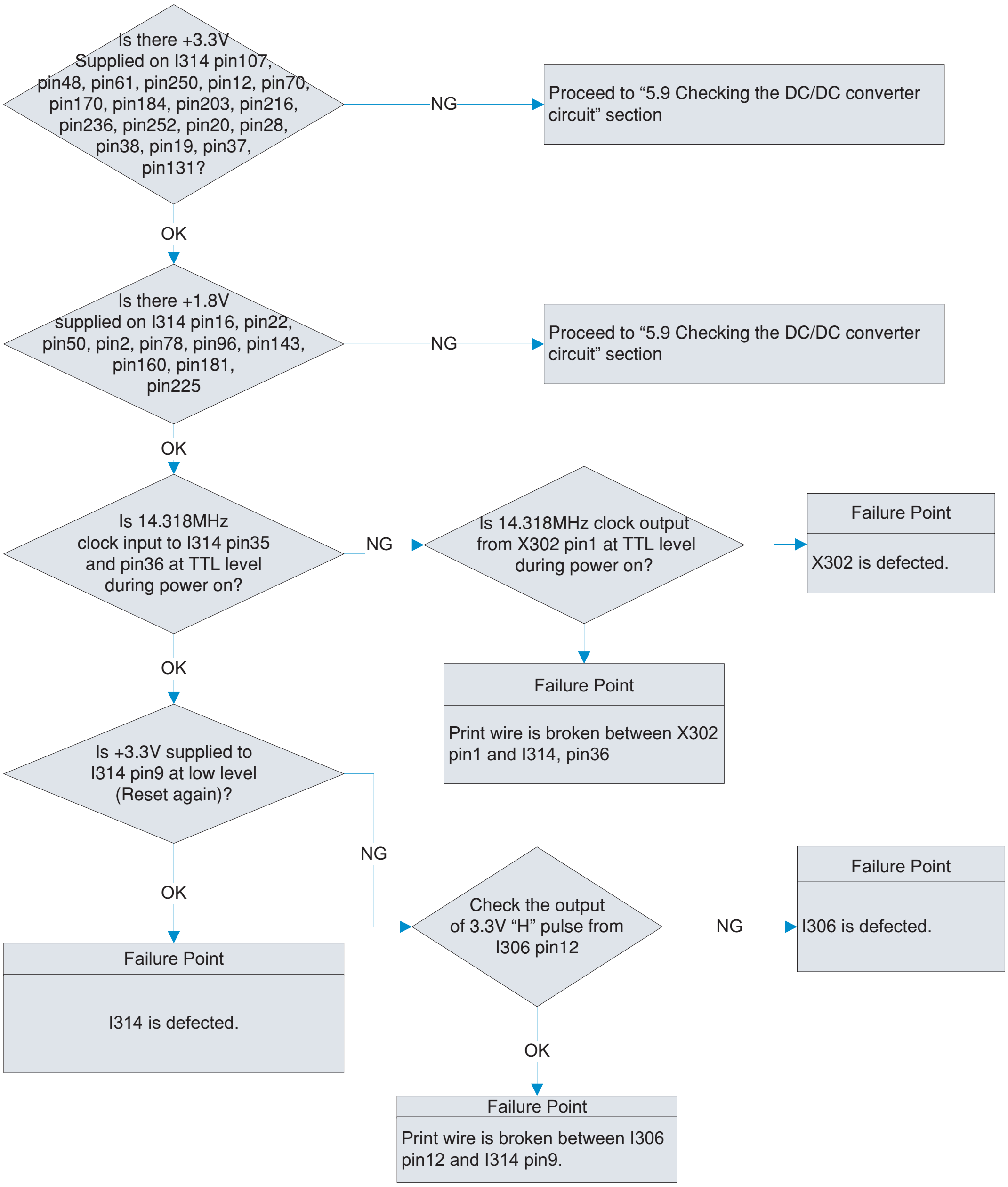
5.7.1 Checking the control circuit of horizontal sync pulse



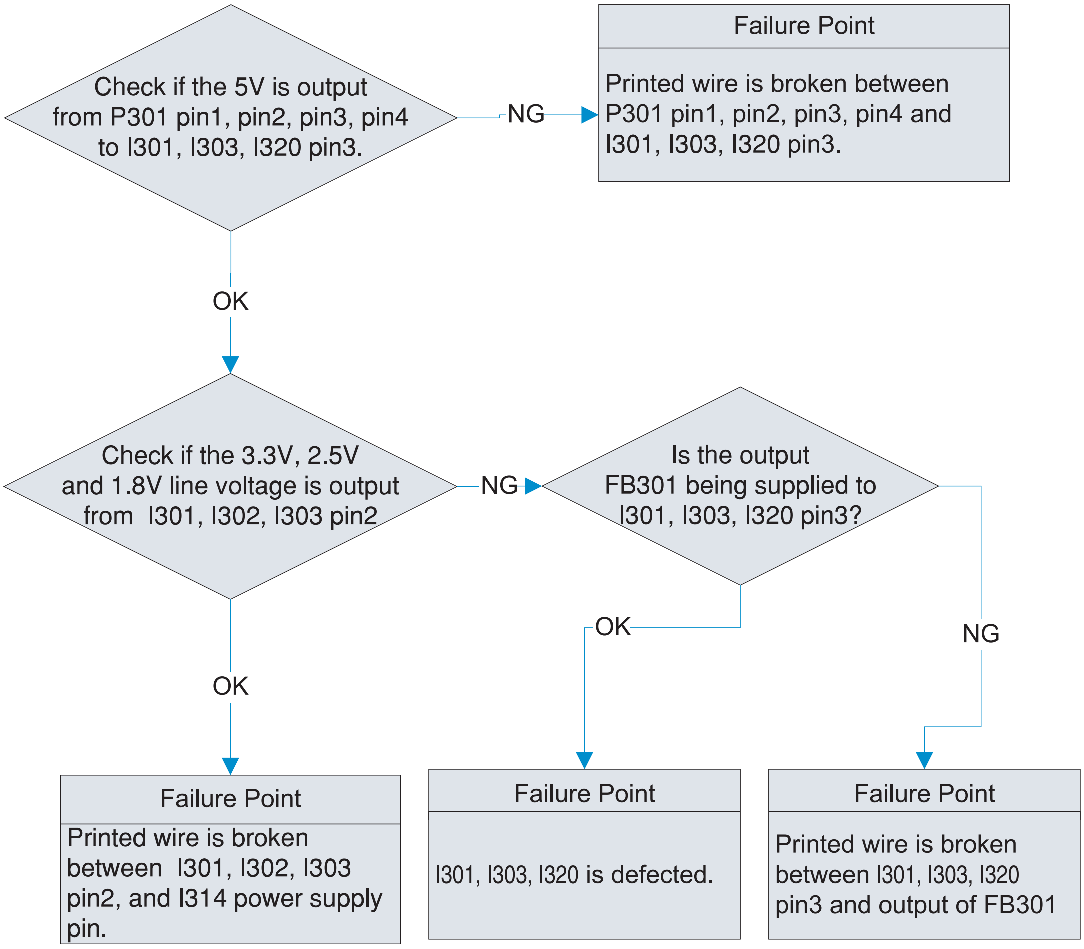
5.7.2 Checking the control circuit of vertical sync pulse



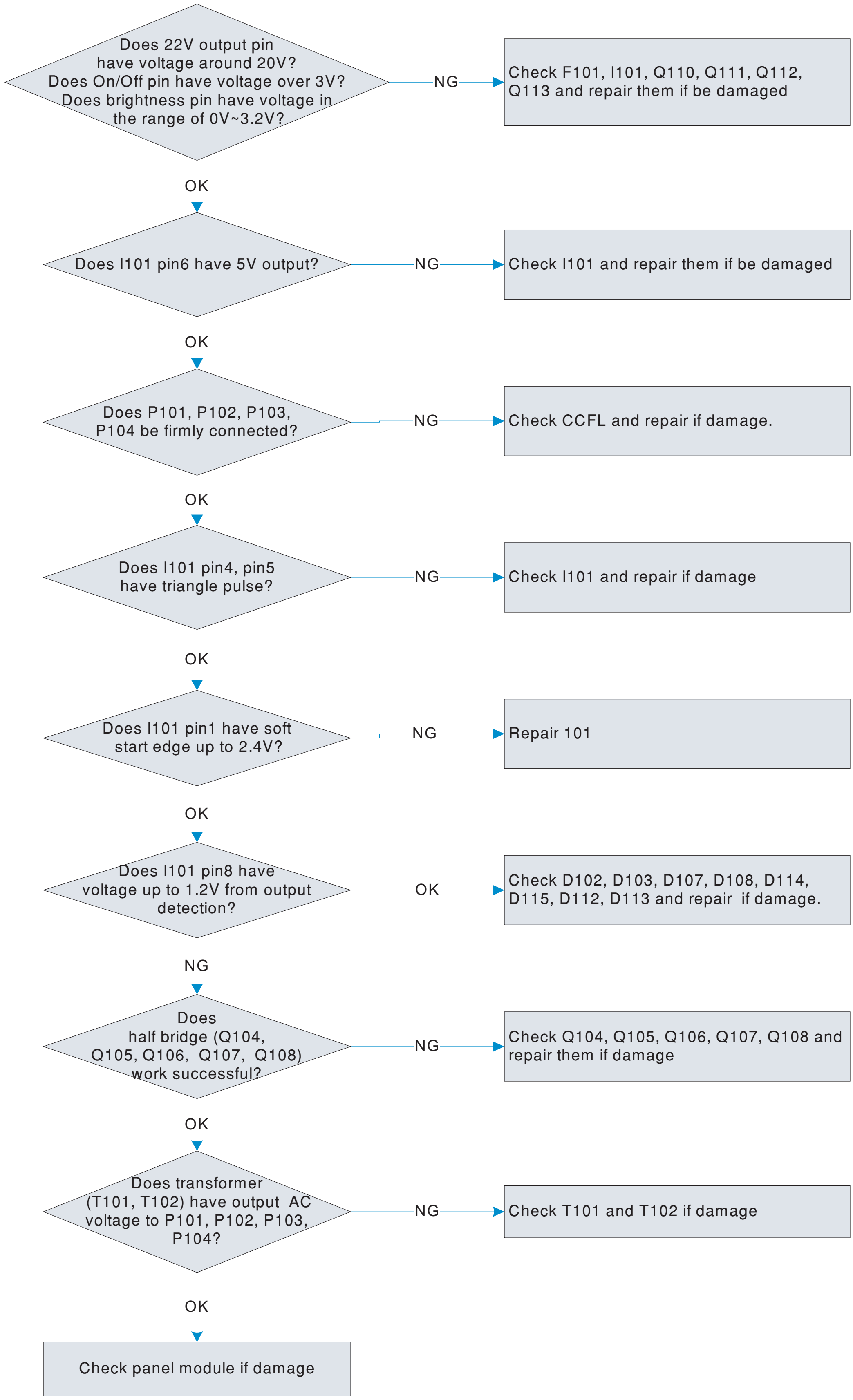
5.8 Checking the resolution change IC movement



5.9 Checking the DC/DC converter circuit



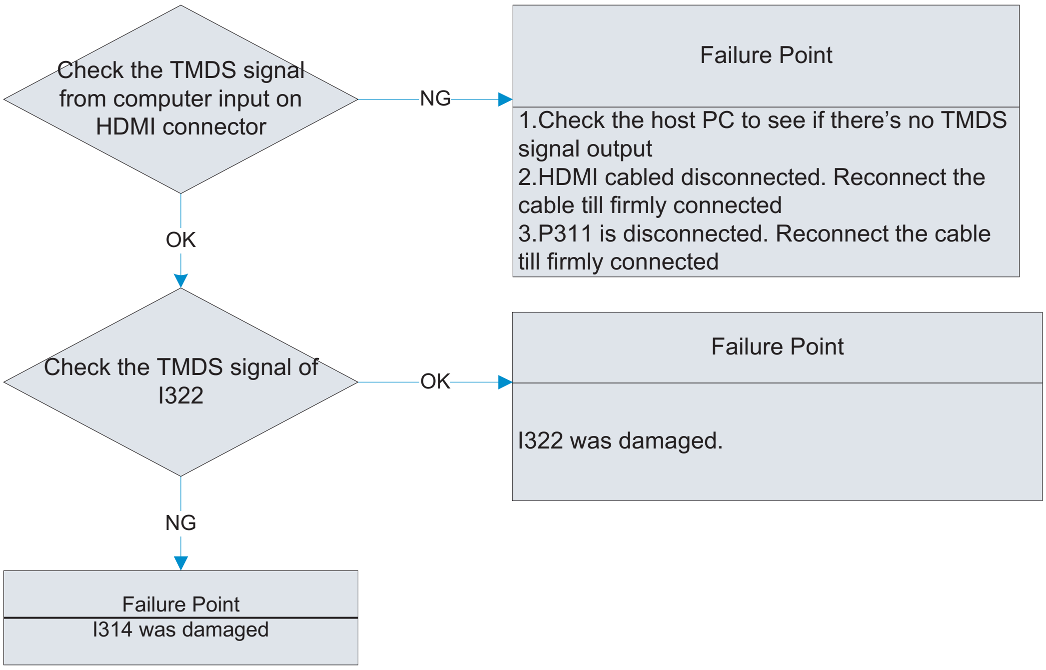
5.10 Checking the inverter board circuit



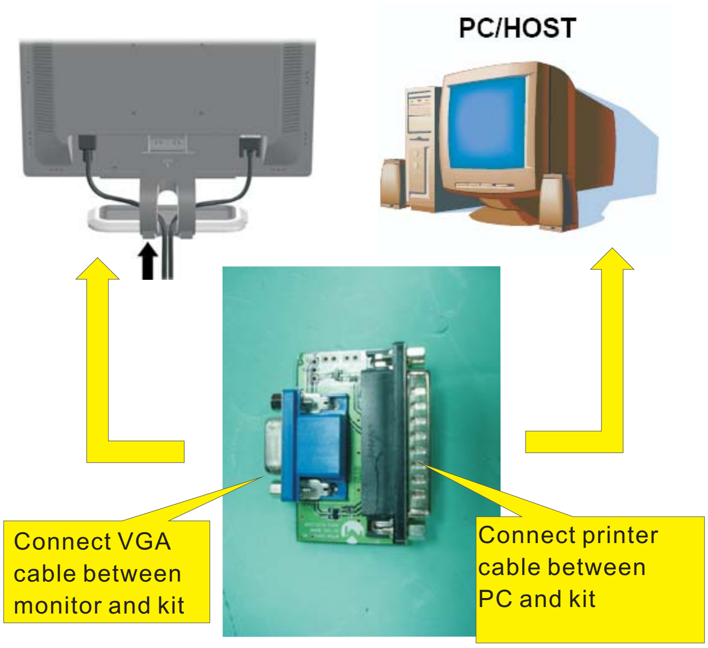
Go to cover page

5.11 HDMI signal check

5.11.1 No video

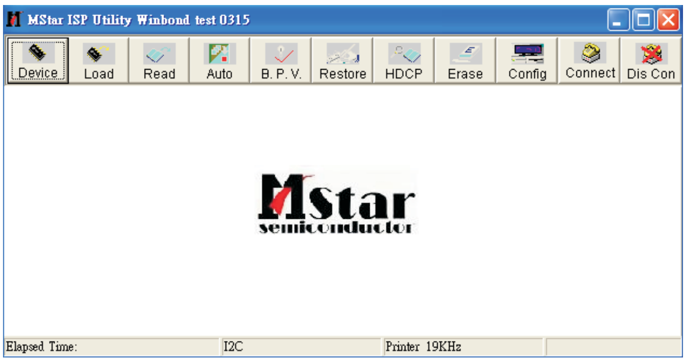


Hardware Configuration

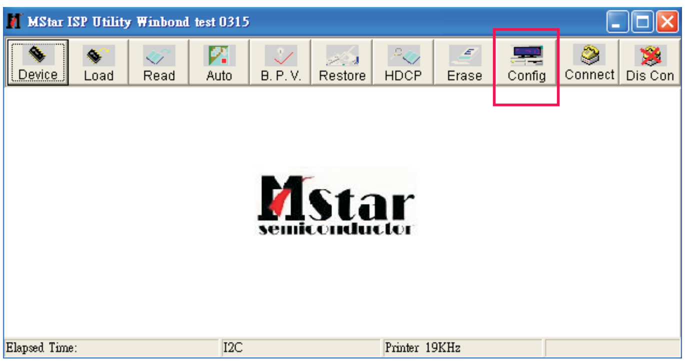


Mstar ISP Utility Configuration:

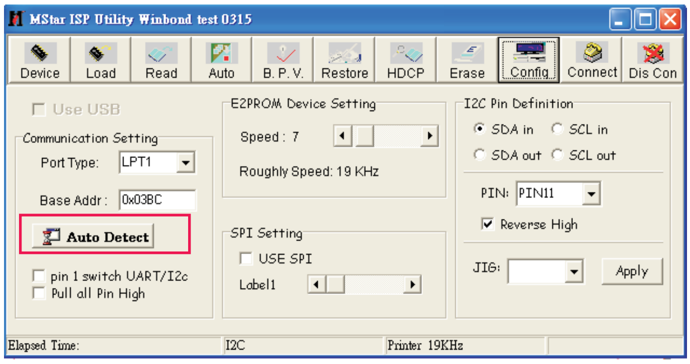
Launch the utility of “ISP_Tool Winbond 0315.exe”



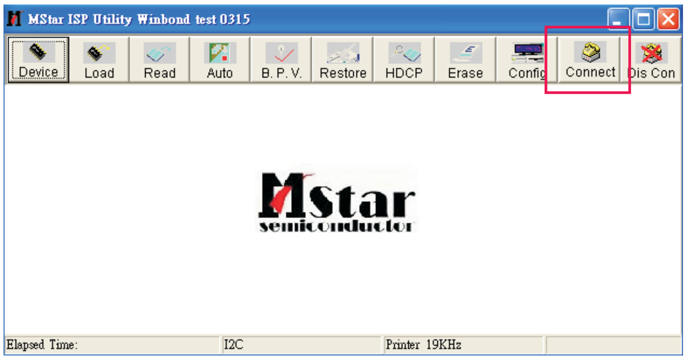
Press Config button



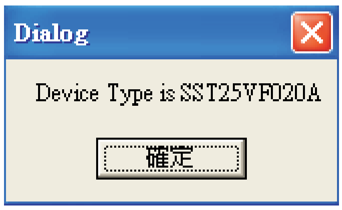
Select AUTO DETECT button that will automatically detect the device then shows “OK” on the right side.



S2. Press [Connect] button.



There s a Dialog window shown on the screen. It is the meaning of connection successful .

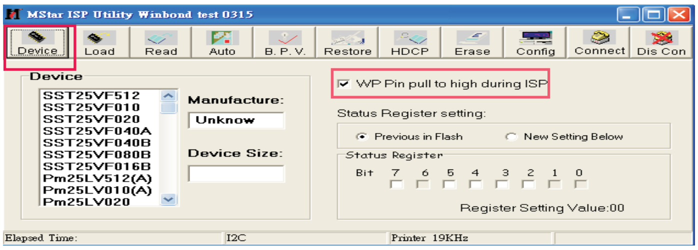


Check the video cable and ISP board (D-sub to Printer port) between LCD monitor to PC host to see if it disconnected.

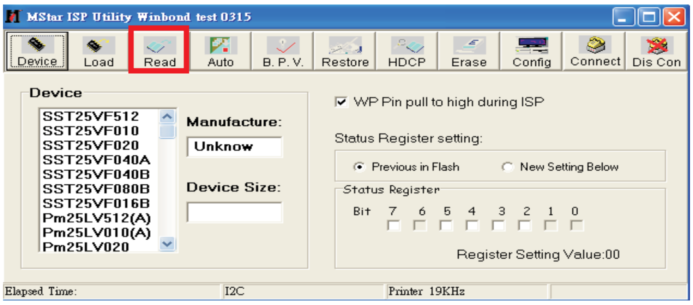


Go to cover page

Press [Device] button to select the “ WP pin pull to high during ISP “

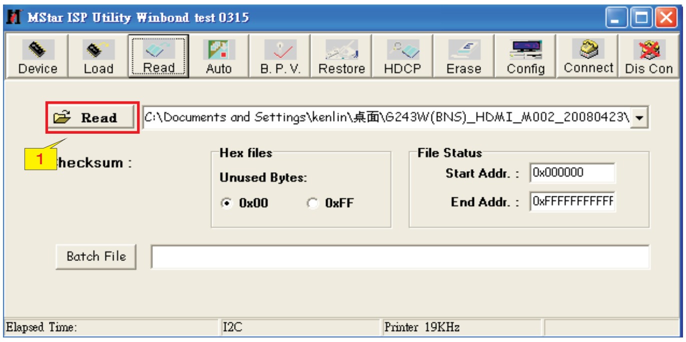


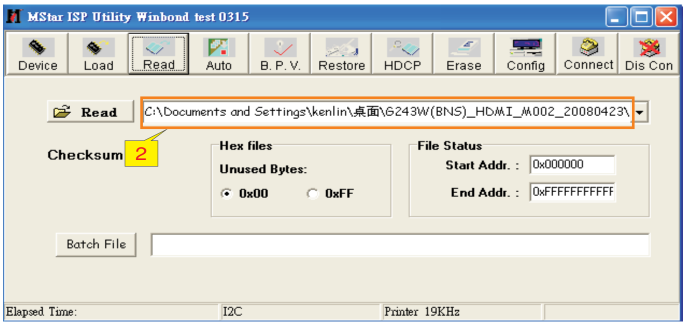
Press [Read] button.



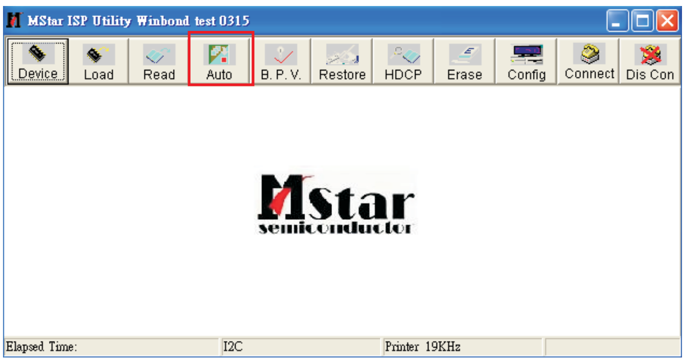
1. Press Read folder to browse firmware image.

2.The position according to where the firmware be put

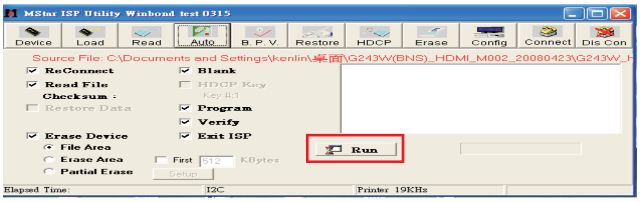


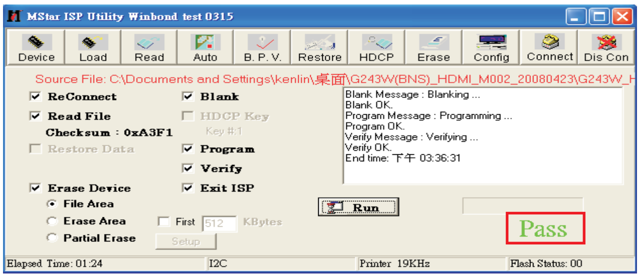


Press [Auto] button



Press [Run] button and waiting for firmware upgrade completed .The screen will show “PASS”

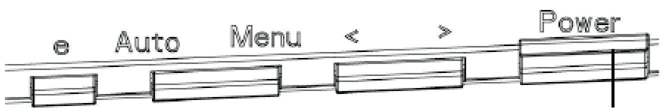


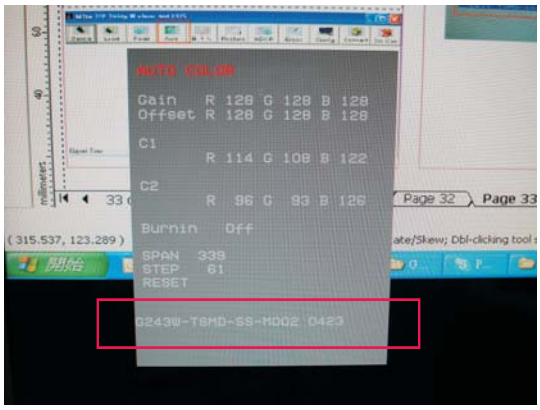


Check firmware version

Turn off the power,then press force on “ POWER ” and “ E ” button at the same time then press on “ MENU ”button to enter factory mode

Note: Please pay attention ,Don’t change any parameter which is measured by precise machine before shipping out





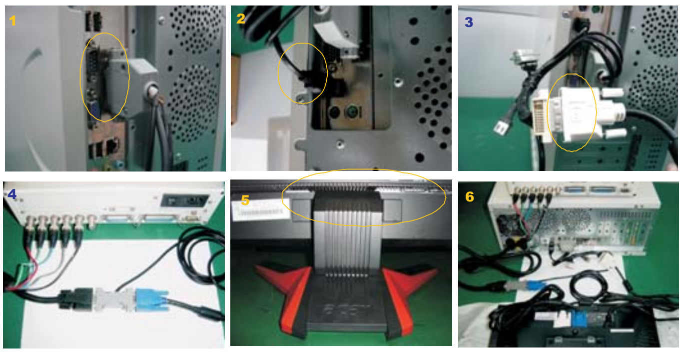
When you writing F/W face on interrupting that cause monitor shut down .

You can unplug AC power then press “AUTO”button and plug AC power at the same time to solve this problem then re-write F/W again.

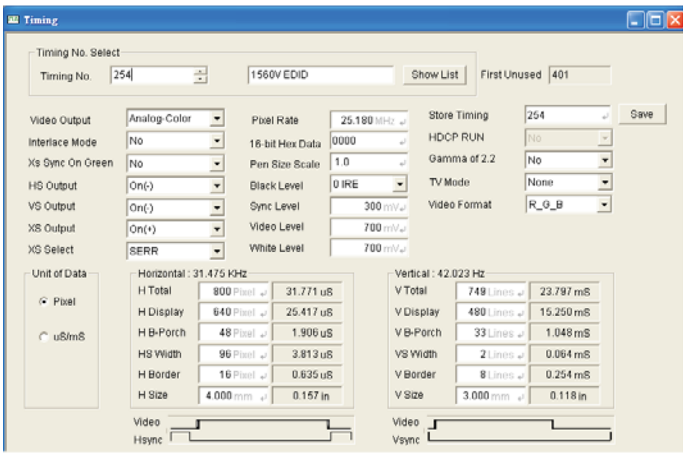
Go to cover page

1 Writing EDID Procedure
Hardware Configuration:
1.)Connect the PRINTER PLUG of DDC FIXTURE with the printer port of Desktop PC. (Refer to figure 1)
2.)Plug USB A PLUG of DDC FIXTURE to USB socket of Desktop PC (Refer to figure 2)
3.)Extend the DVI cable on DVI EXTENDING SOCKET of DDC FIXTURE. (Refer to figure 3)
4.1)Connect the D-sub plug of Chroma with D-SUB PLUG of DDC FIXTURE (Refer to figure 4)
4.2) Take a video cable then connect the D-SUB PLUG and the D-sub socket of monitor. (Refer to figure 5)
5.)Connect the extended DVI cable to DVI socket of monitor (Refer to figure 5)
6.)Re-confirm all the connectors are connected well.

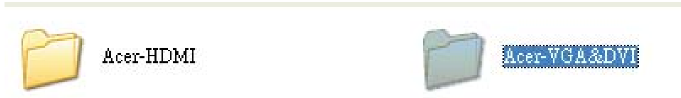




CAUTION: The timing of Chroma shall be setup at T254/ P41 before data recording. the detail setting parameter from chroma .Please See below photo

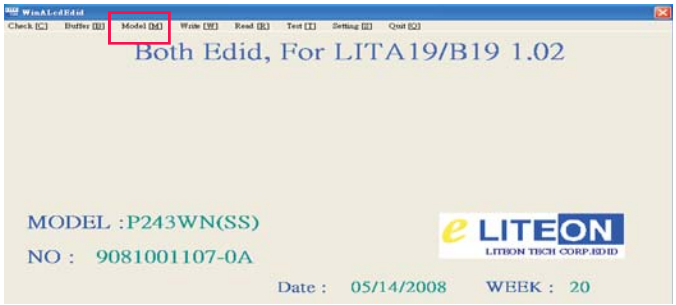


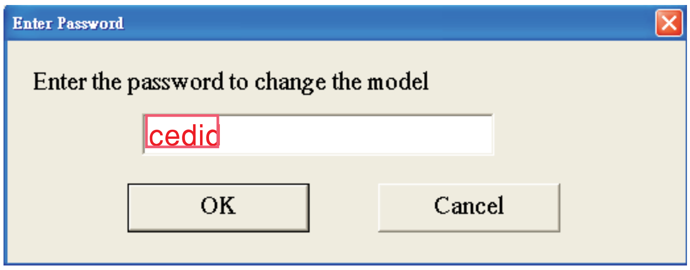
2. Writing VGA/DVI Process
Chose the folder:"Acer-VGA&DVI" then double click
Select the "Acer-M1&M3-XPEDID-DVI-.exe" to execute it

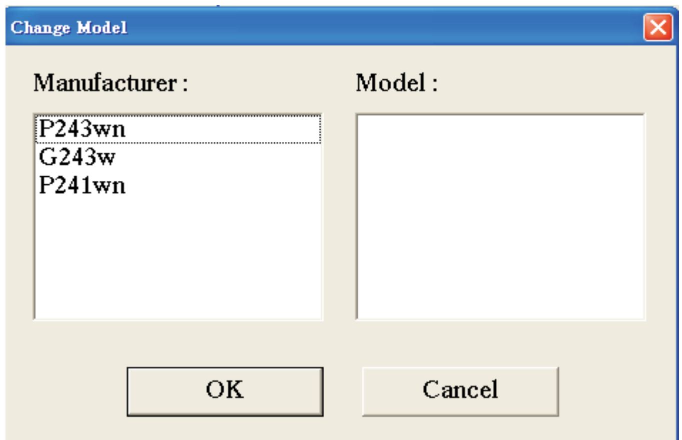




3.Select Model: Key in password"cedid" then select model which one you want to write EDID code that it depends on panel type.



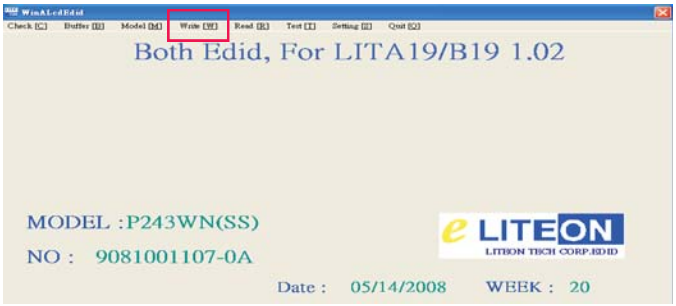




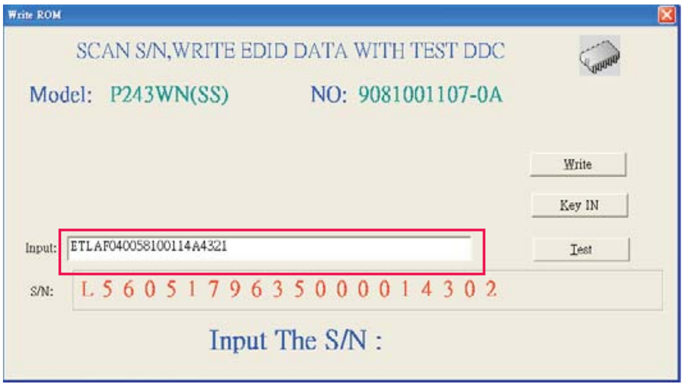
7. Writing EDID Process (continued)

Go to cover page

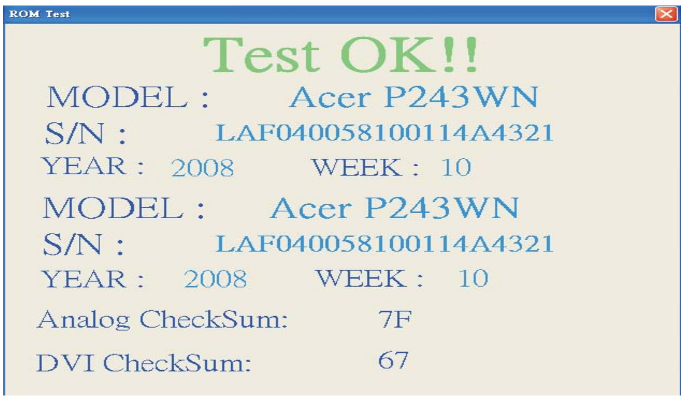
4. Choose "WRITE" from menu then select "Scan S/N And Write EDID And Test DDC"



5. Key in series number(22 characters) in the input column
Press write button after key in S/N



6. When EDID was written successfully that will show below message on the screen

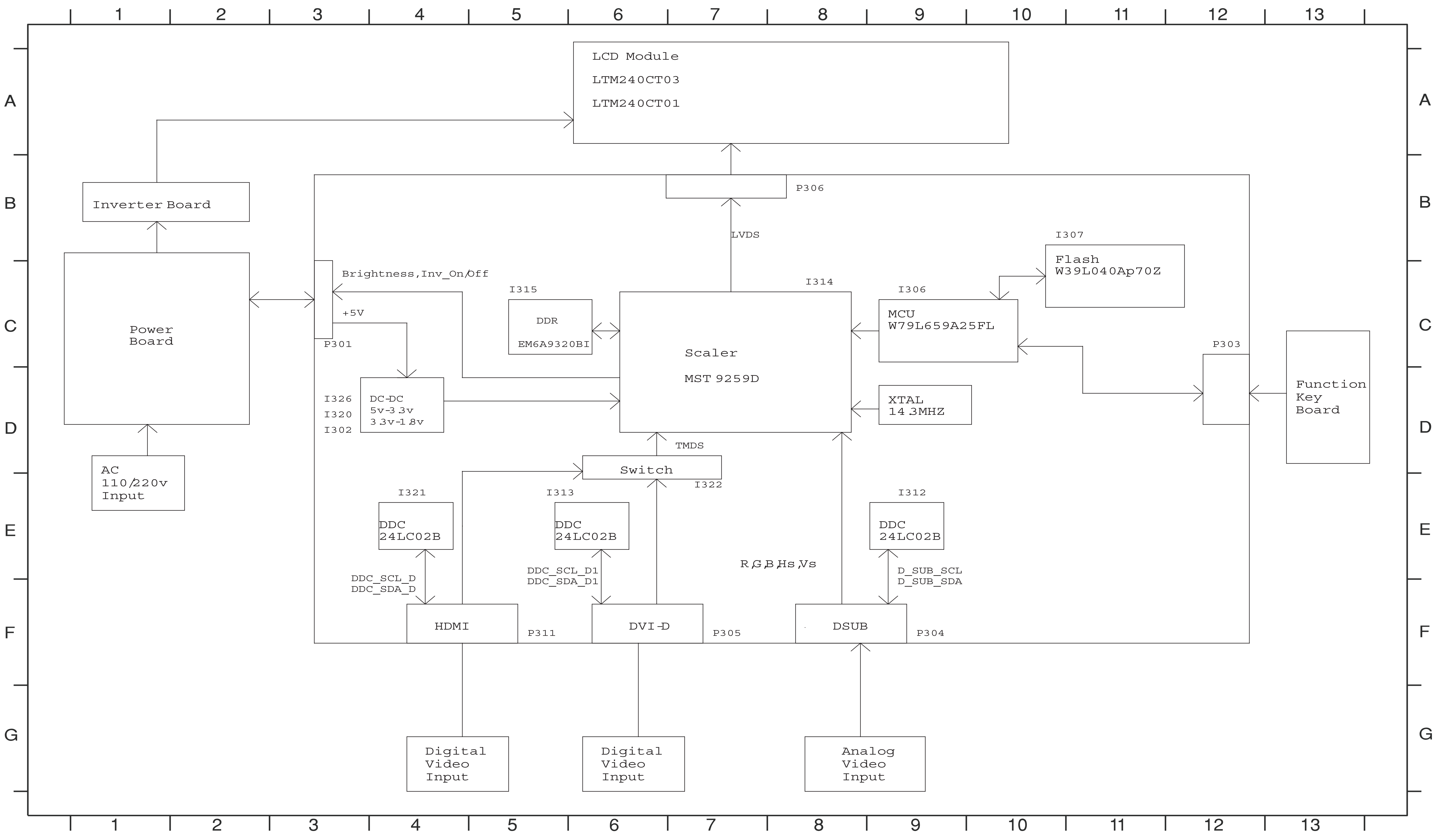


Writing HDMI Process
Chose the folder:"Acer-HDMI" then double click
Select the "acer HDMI.EXE" to execute it
According to the previous process(step3-step6) to write HDMI-EDID.



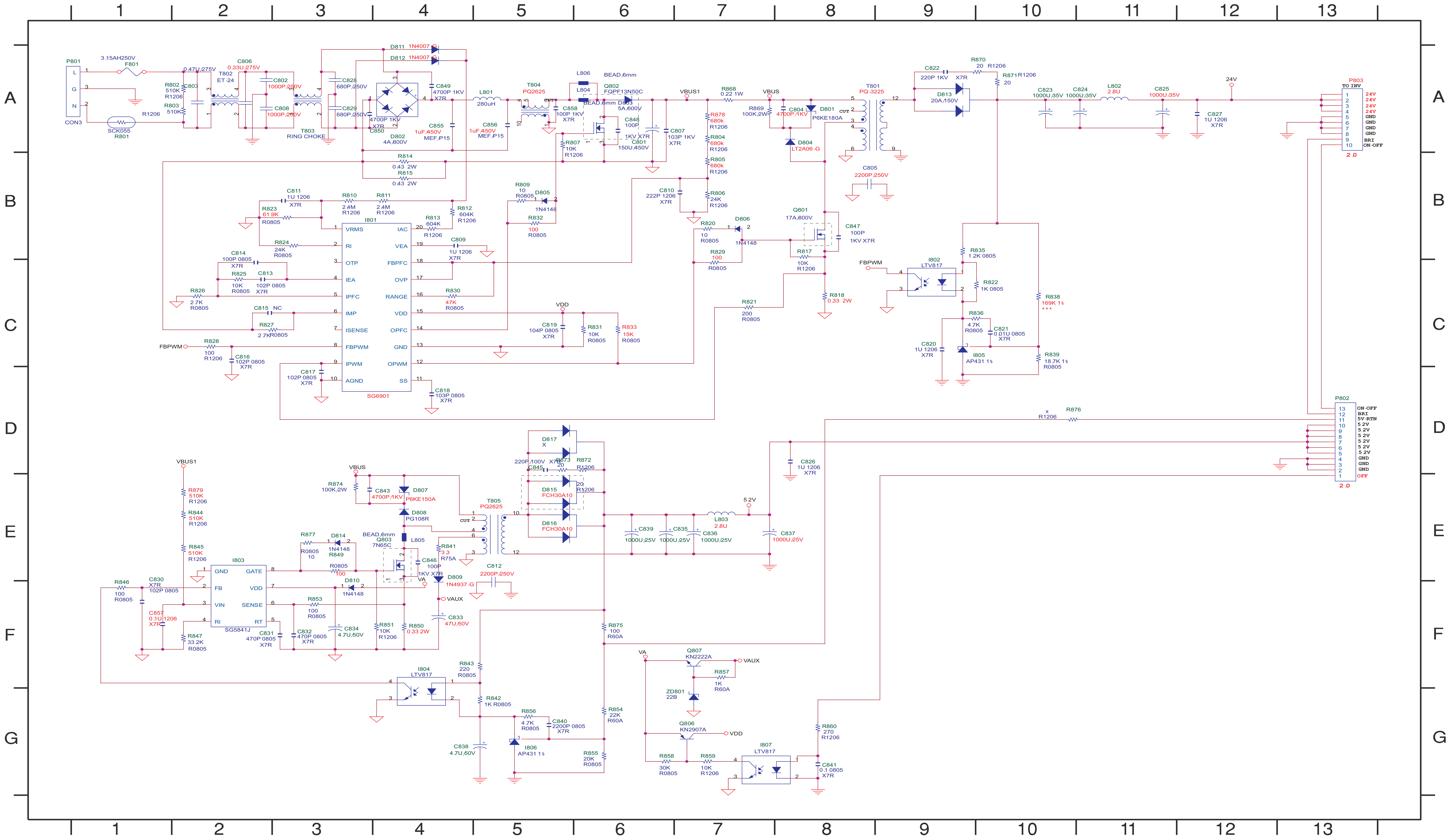


8.1 ACER_LCD_G24_SCHEMATICS_BLOCK DIAGRAM

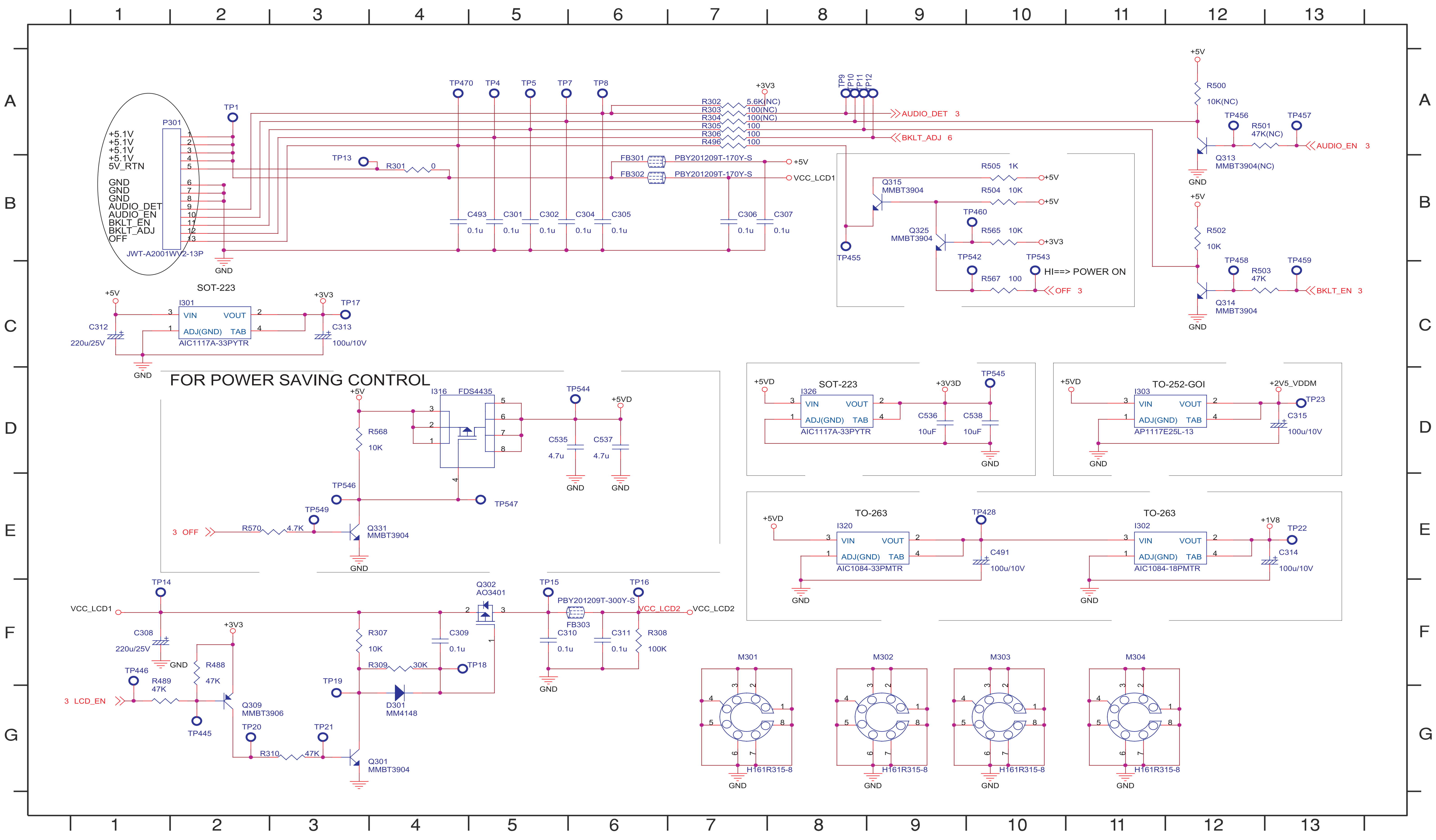


PCB No.

8.2 ACER_LCD_G24_SCHEMATICS_POWER BOARD

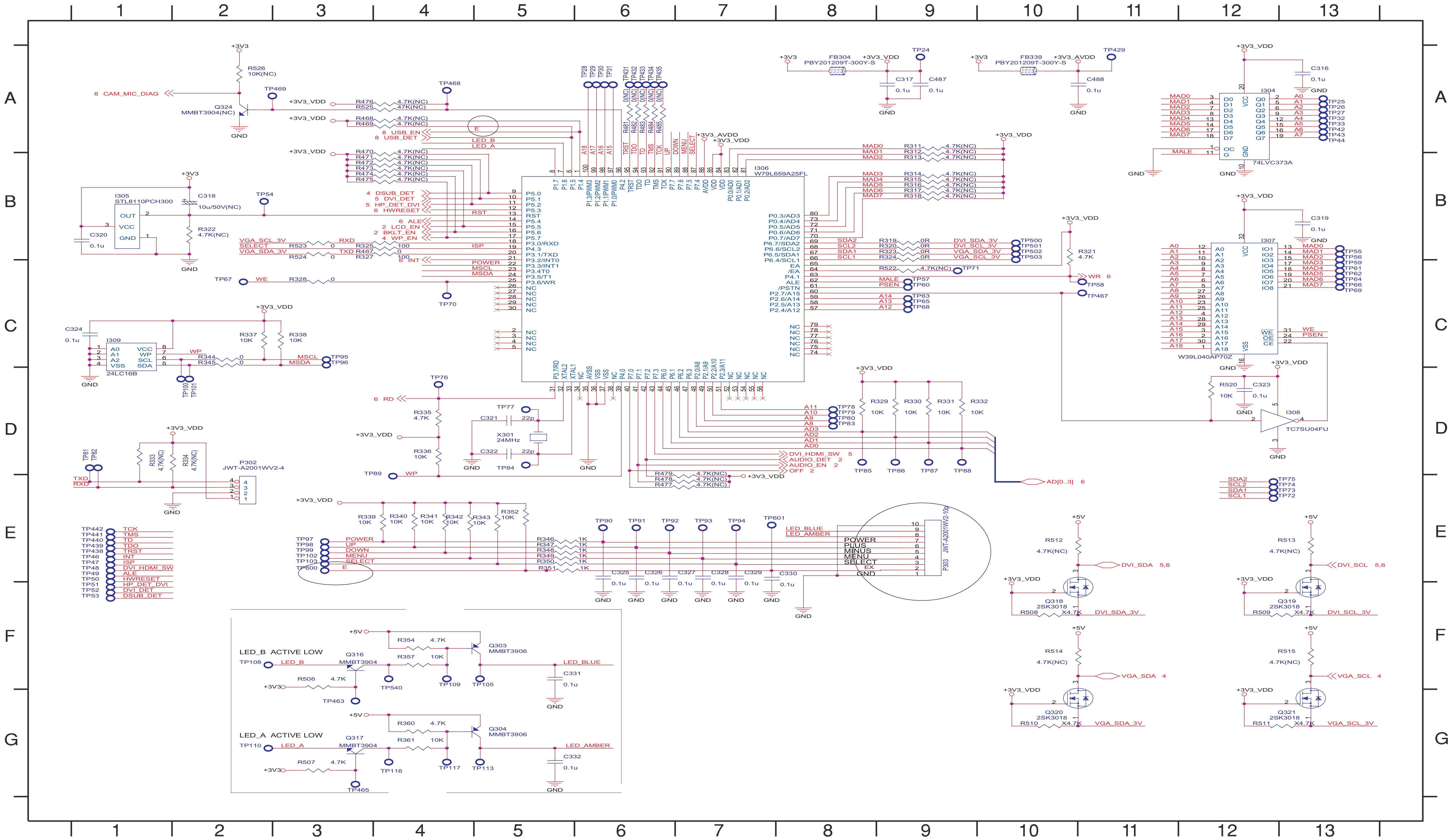


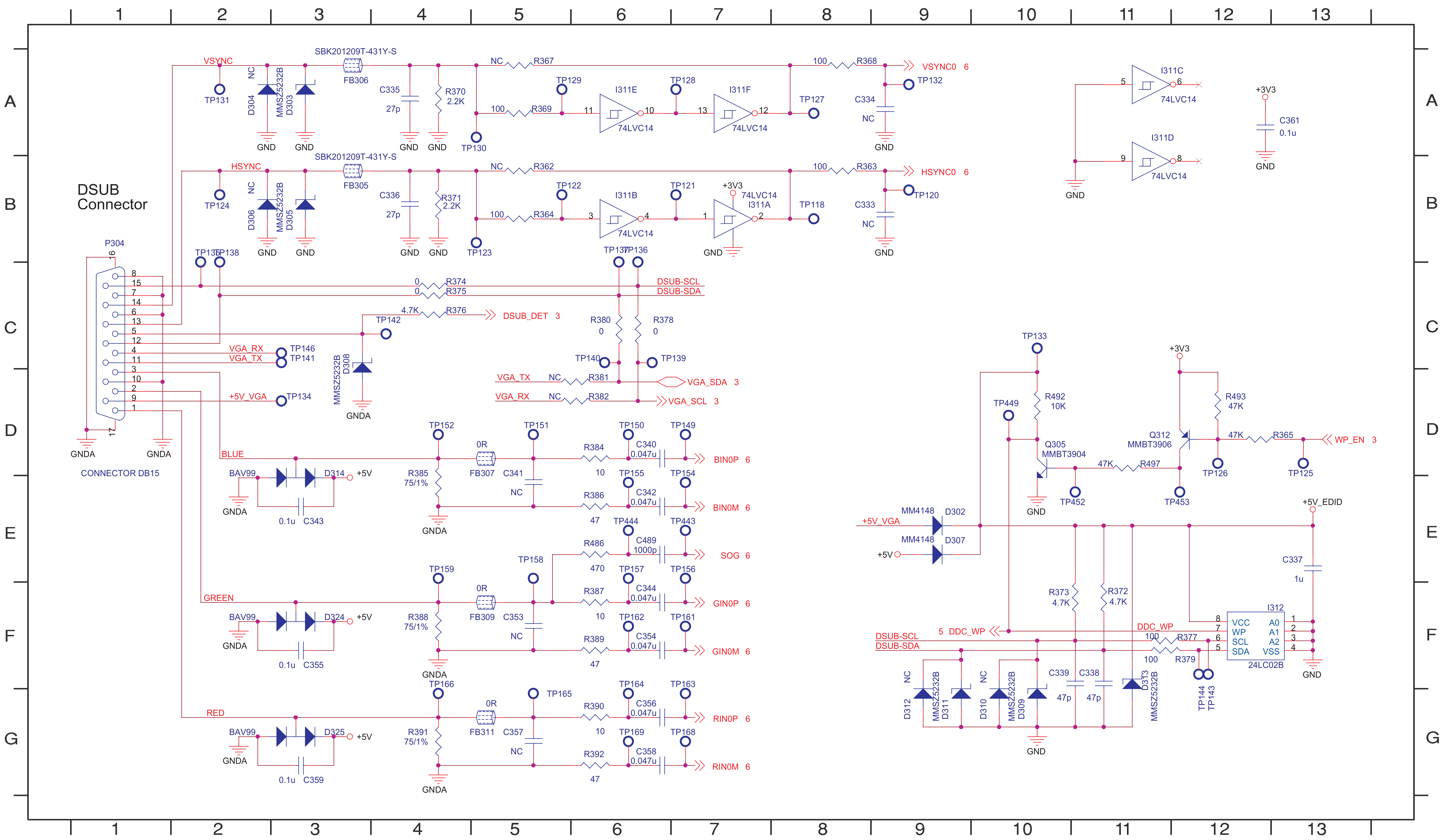
PCB No. 6832194100P01



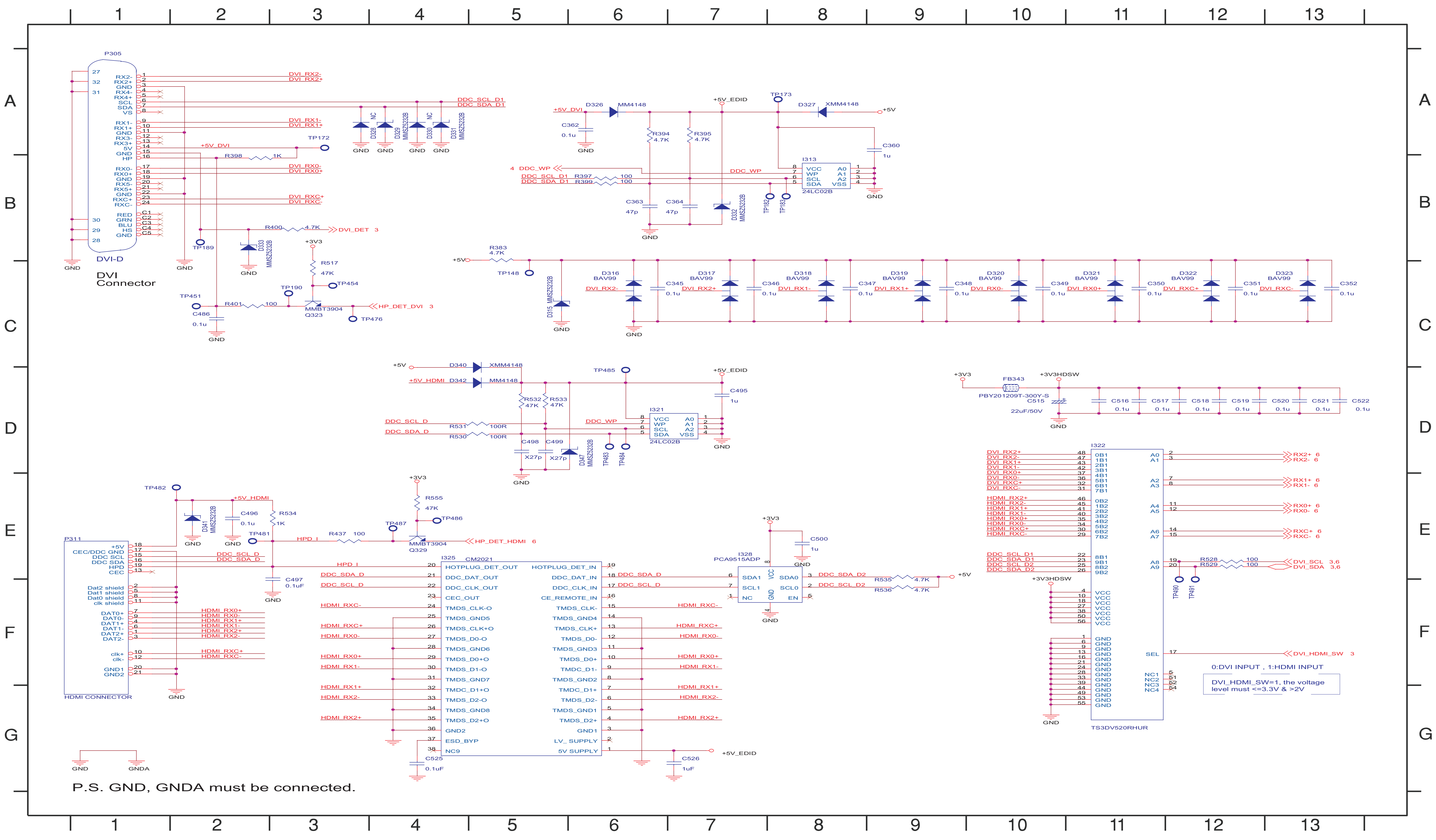
P301
+5.1V
+5.1V
+5.1V
+5.1V
5V_RTN
GND
GND
GND
AUDIO_DET
AUDIO_EN
BKLT_EN
BKLT_ADJ
OFF
JWT-A2001WV2-13P
SOT-223
AIC1117A-33PYTR
FOR POWER SAVING CONTROL
FDS4435
MMBT3904
AO3401
PBY201209T-300Y-S
PBY201209T-170Y-S
VCC_LCD1
VCC_LCD2
HI==> POWER ON
AUDIO_DET 3
BKLT_ADJ 6
AUDIO_EN 3
BKLT_EN 3
OFF 3
LCD_EN
TO-252-GOI
AP1117E25L-13
TO-263
AIC1084-33PMTR
AIC1084-18PMTR
H161R315-8

8.4 ACER_LCD_G24_SCHEMATICS_INTERFACE_BD_MCU AND FUNCTION KEY

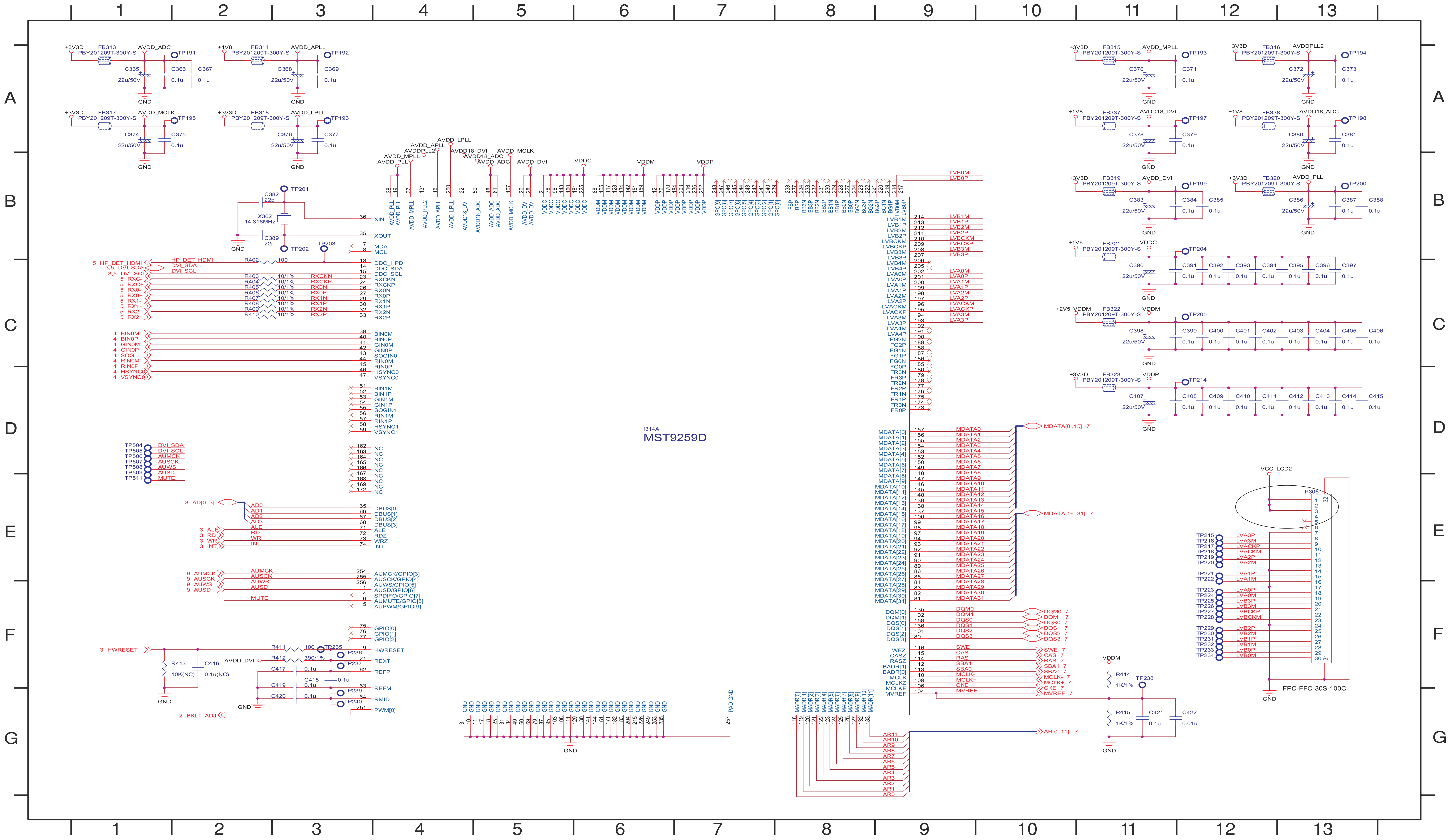



DSUB Connector
P304
CONNECTOR DB15
VSYNC
HSYNC
VSYNC0 6
HSYNC0 6
DSUB-SCL
DSUB-SDA
DSUB_DET 3
VGA_RX
VGA_TX
+5V_VGA
VGA_SDA 3
VGA_SCL 3
BLUE
GREEN
RED
BINOP 6
BINOM 6
SOG 6
GINOP 6
GINOM 6
RINOP 6
RINOM 6
74LVC14
MMBT3904
MMBT3906
WP_EN 3
+5V_EDID
5 DDC_WP
DDC_WP
24LC02B
GND
GNDA
+3V3
+5V

8.6 ACER_LCD_G24_SCHEMATICS_INTERFACE_BD_HDMI AND DVI INPUT

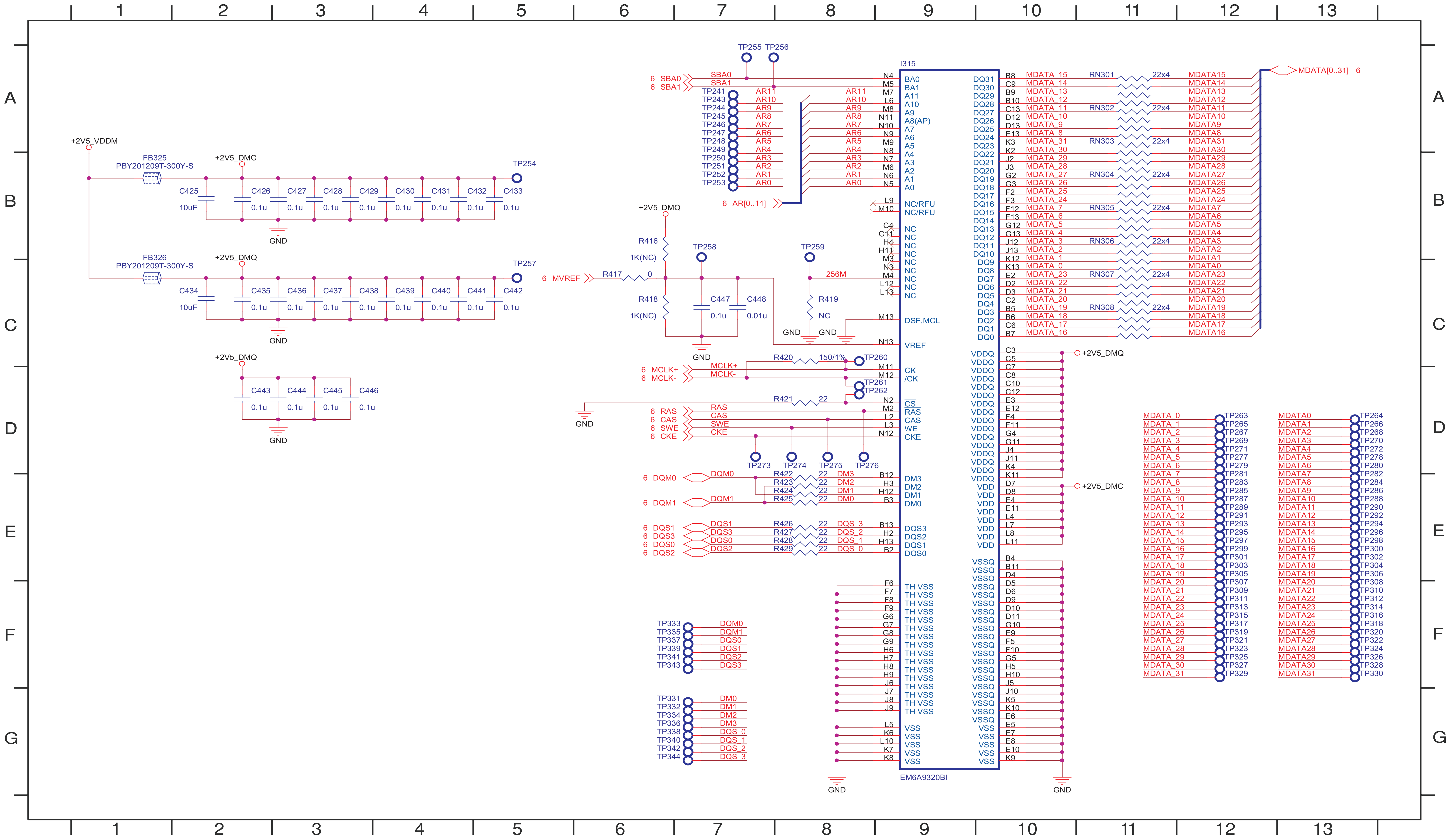


PCB No. 6832194600P0

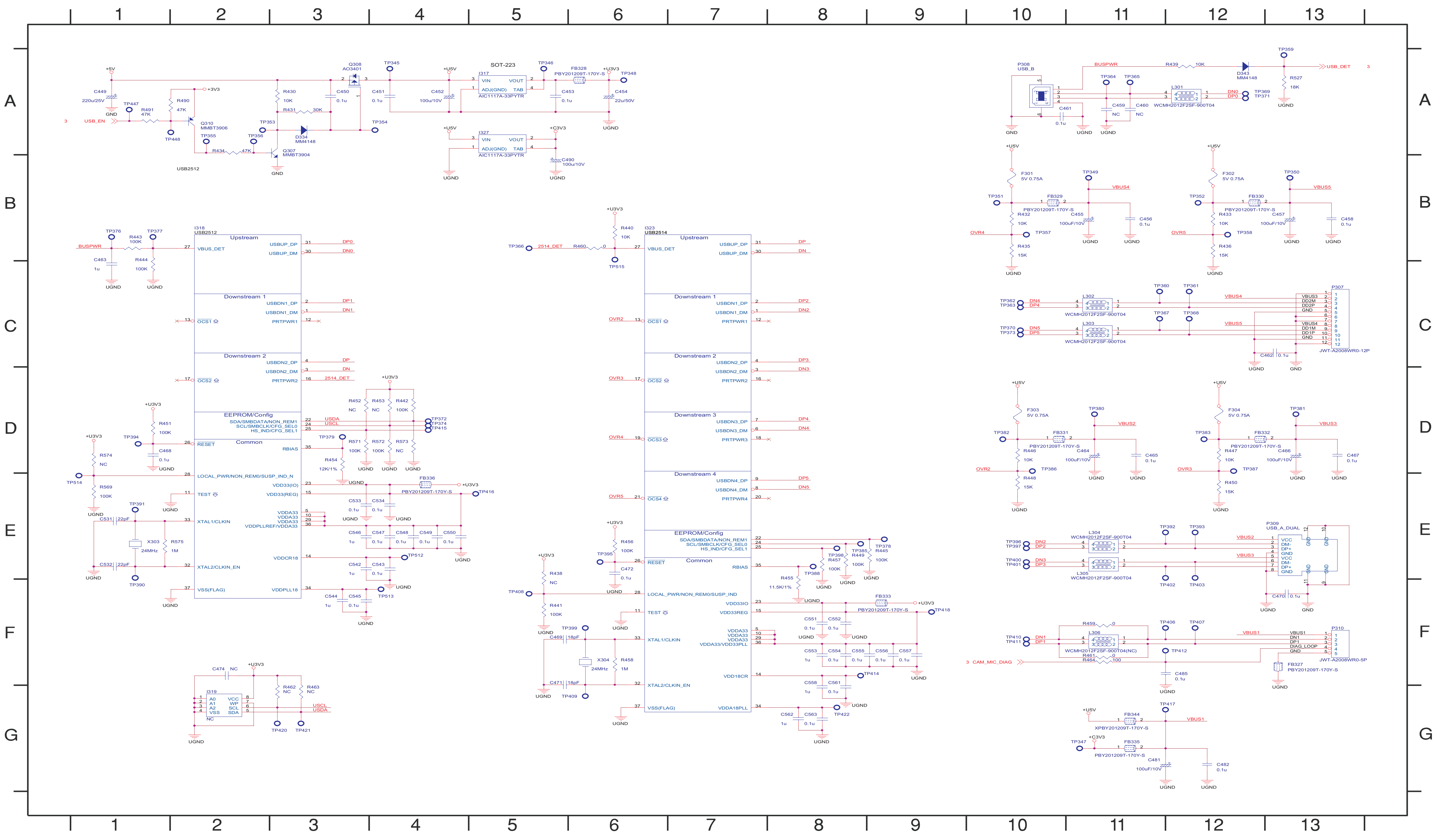


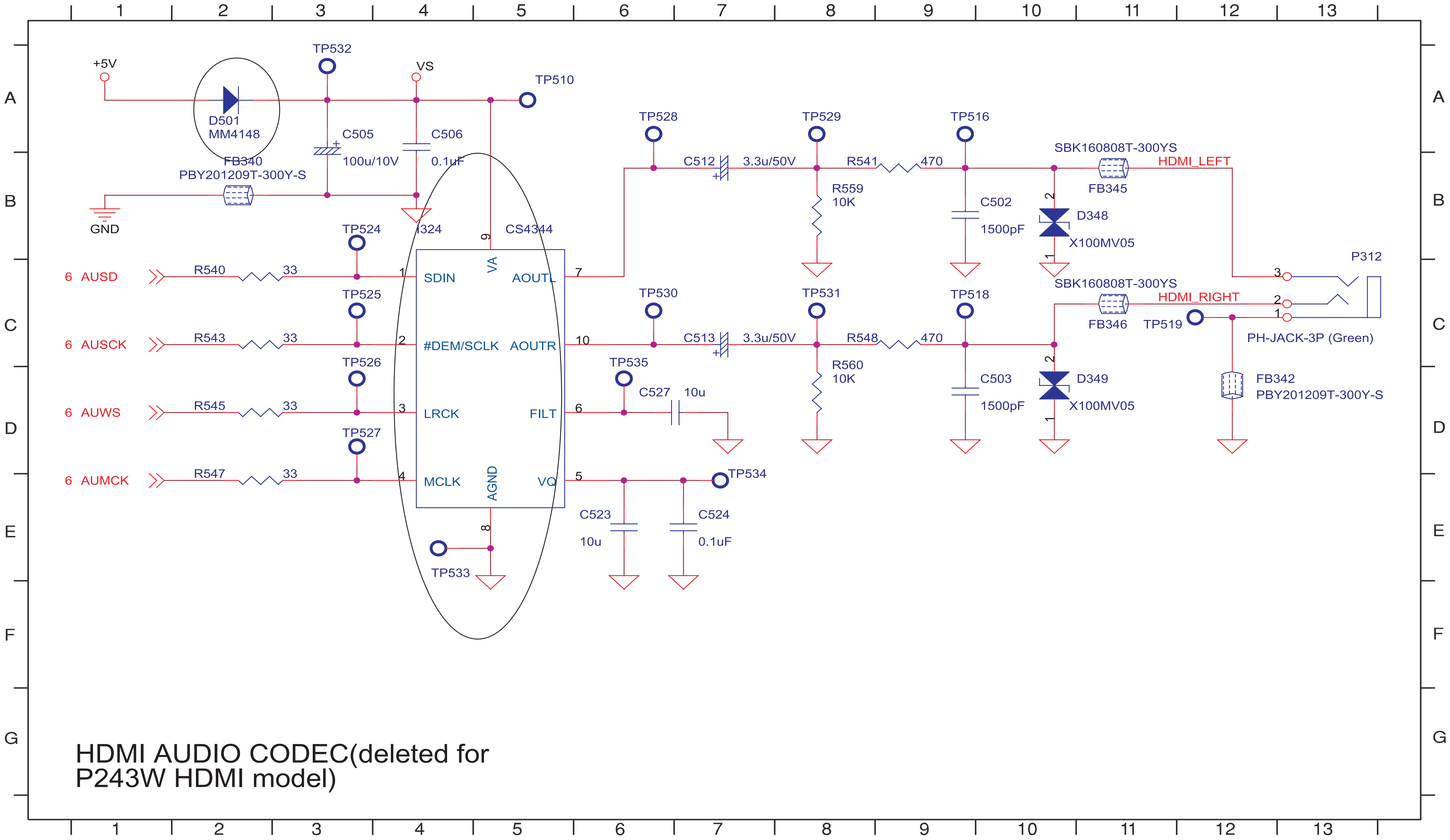
PCB No. 6832194600P0

8.8 ACER_LCD_G24_SCHEMATICS_INTERFACE_BD_SDRAM



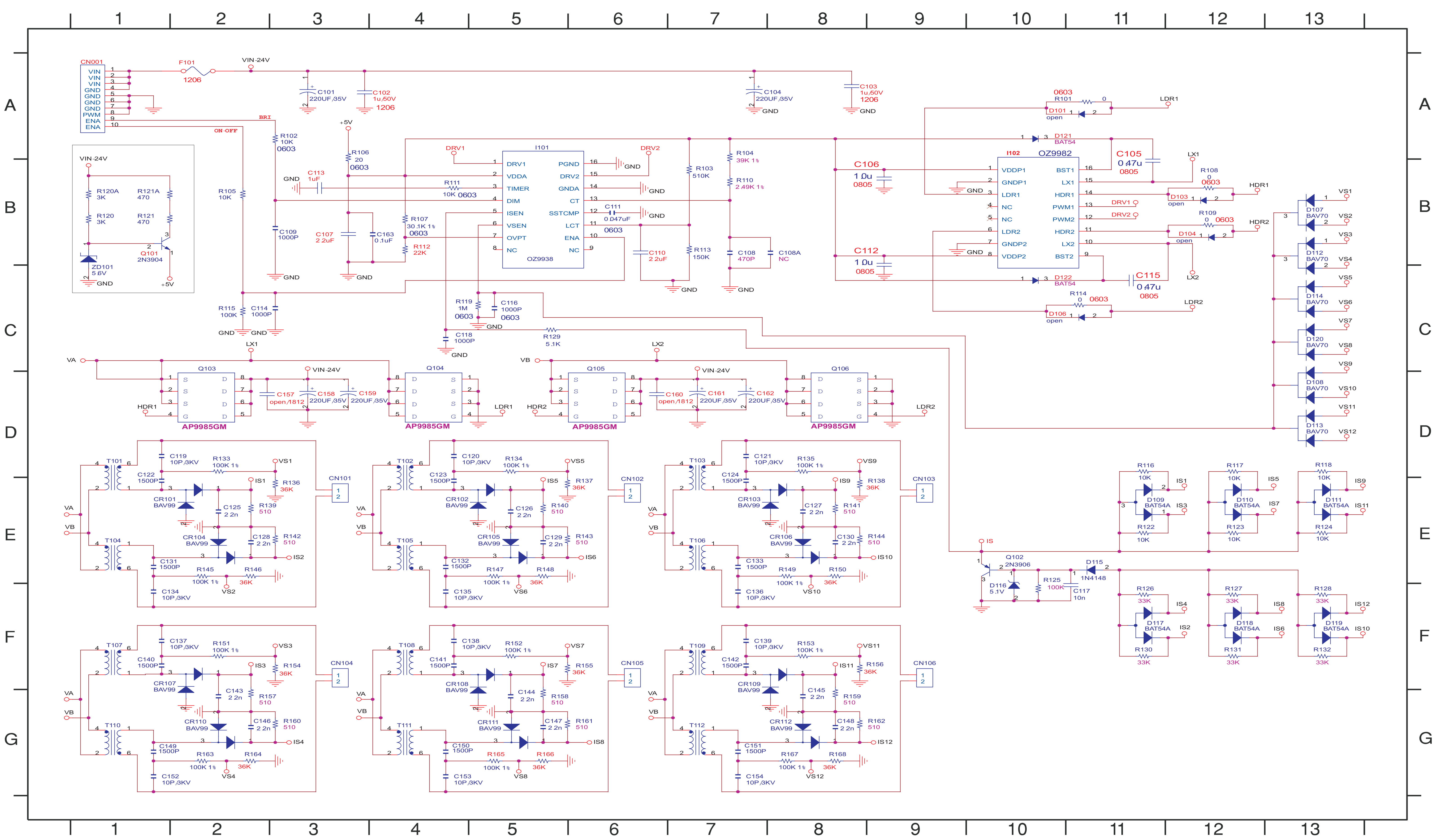
8.9 ACER_LCD_G24_SCHEMATICS_INTERFACE_BD_USB AND CAM/MIC OUTPUT





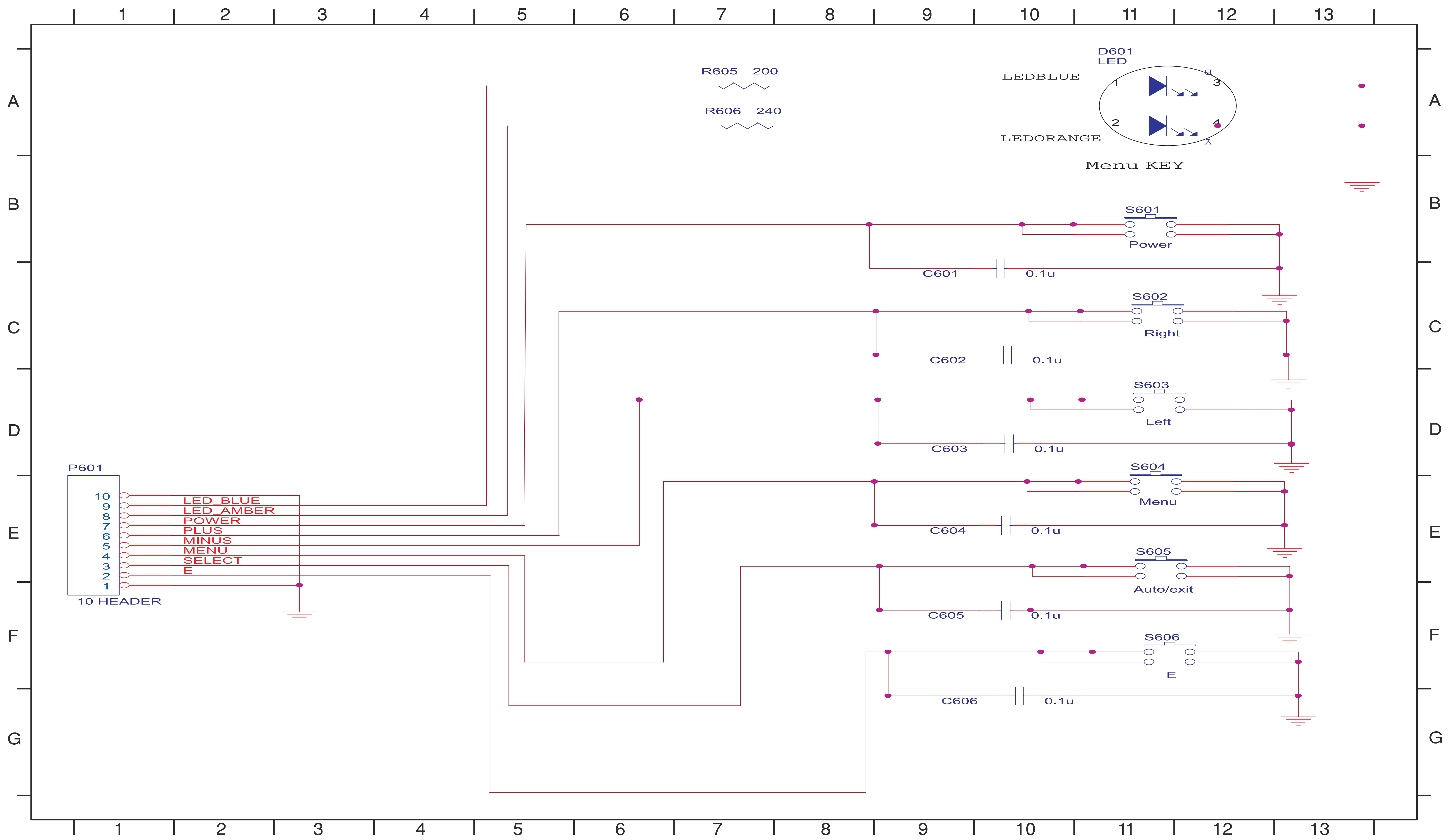
HDMI AUDIO CODEC(deleted for P243W HDMI model)

8.11 ACER_LCD_G24_SCHEMATICS_INVERTER BD



PCB No. 6832188000P0

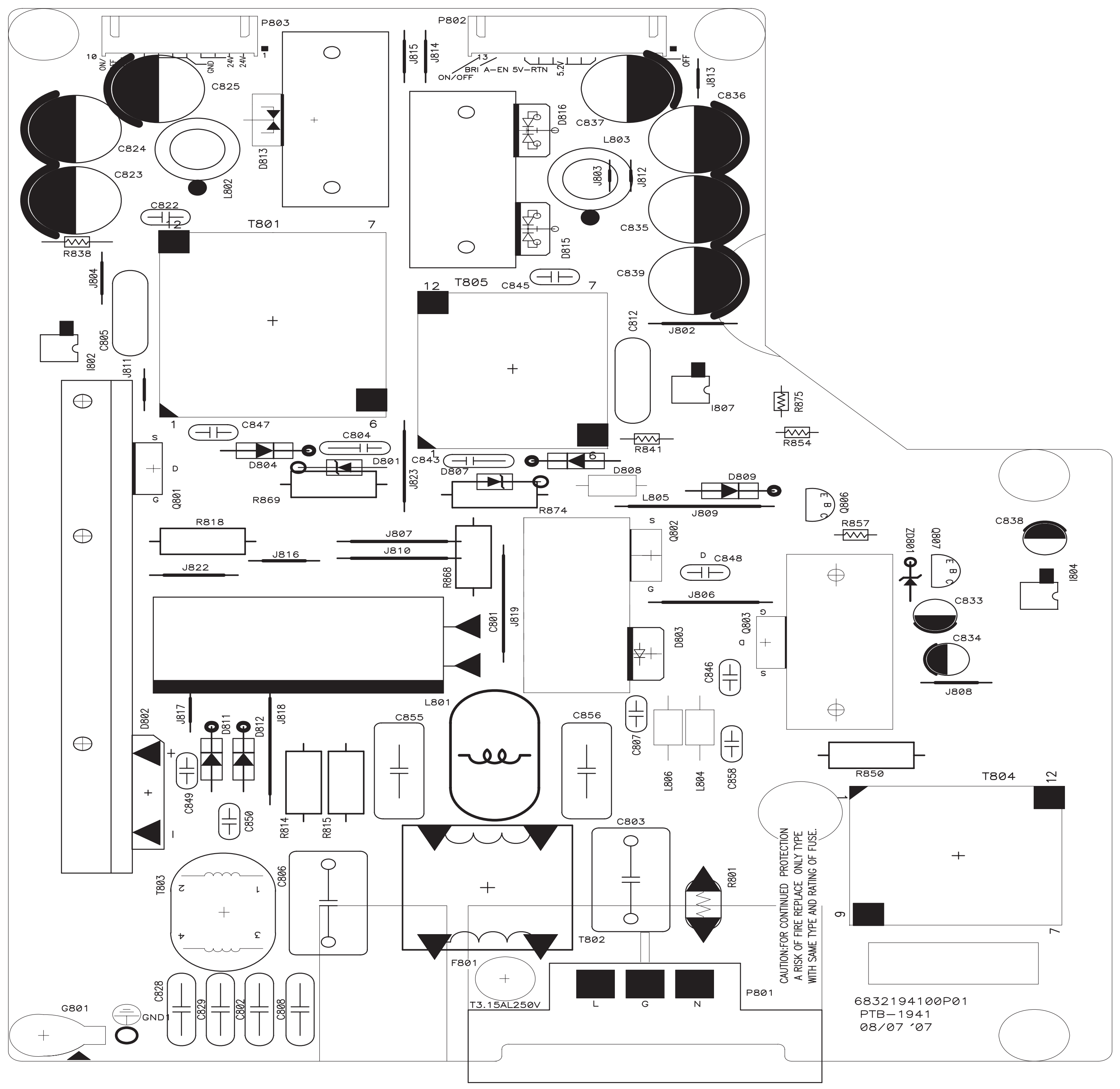
8.12 ACER_LCD_G24_SCHEMATICS_FUNCTION _KEY



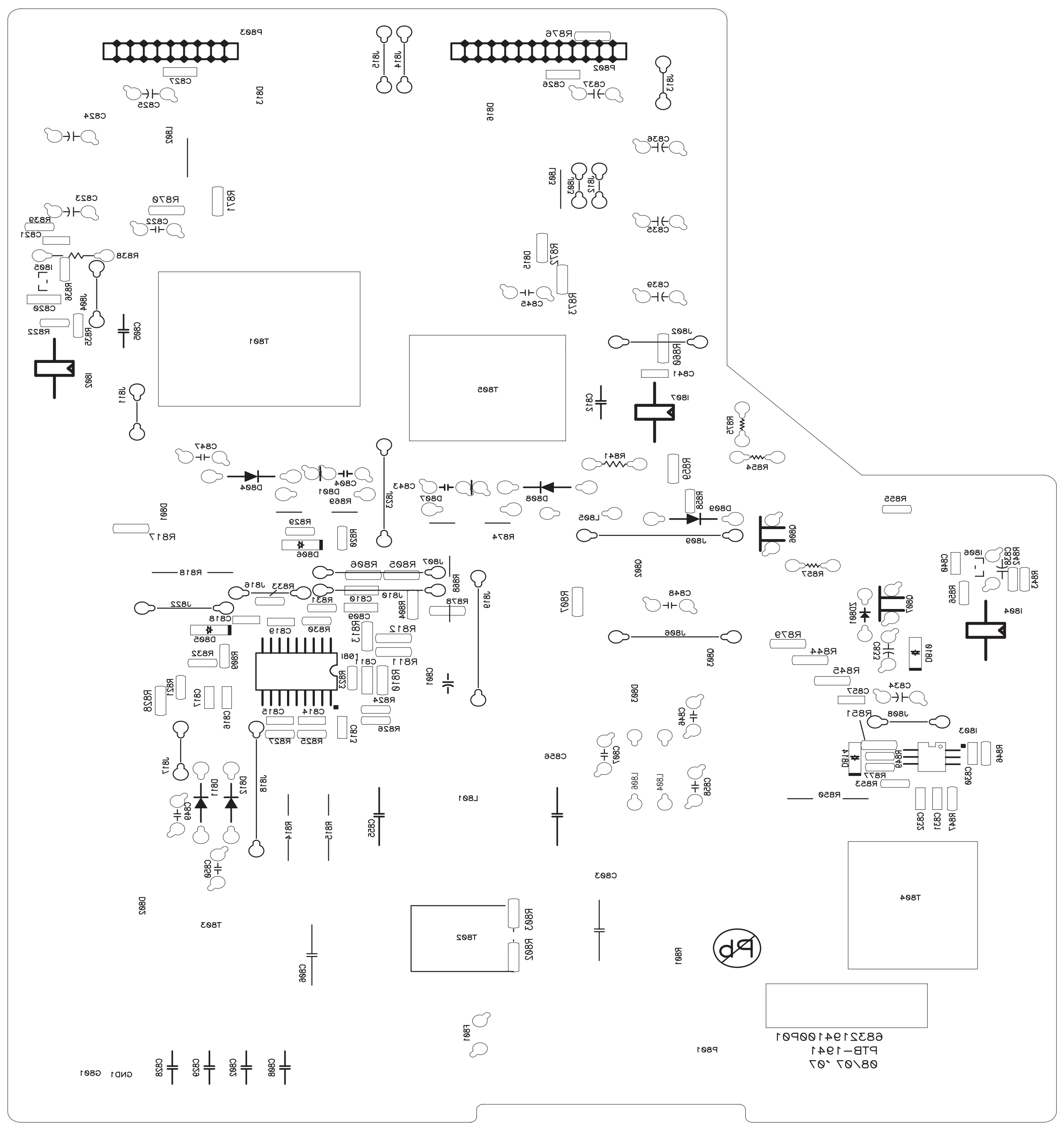
PCB No. 6832194800P0

8.13 ACER_LCD_G24_LAYOUTS_POWER BOARD

POWER BOARD - TOP SILK

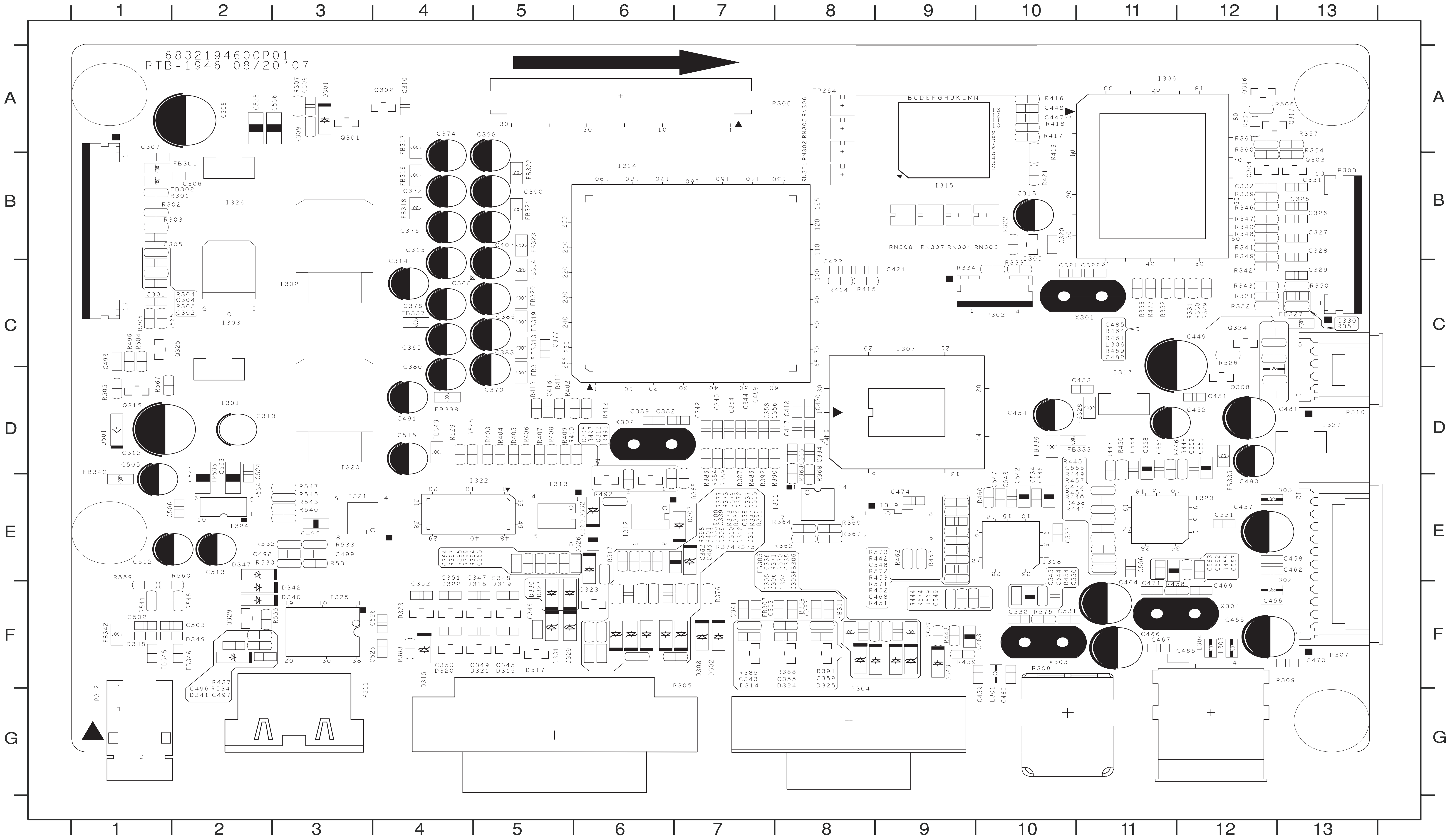


POWER BOARD - BOTTOM SILK



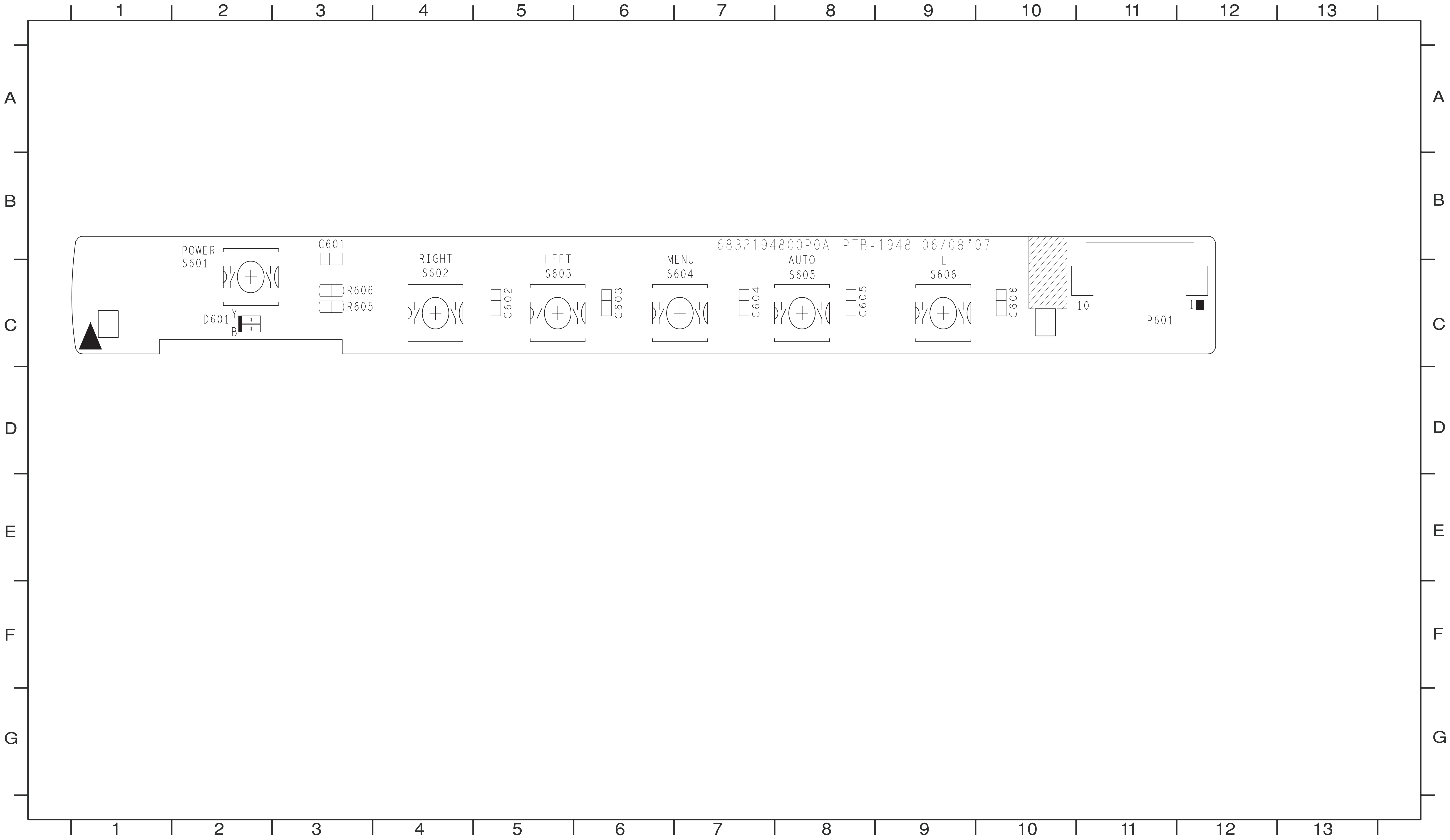
PCB No.

8.14 ACER_LCD_G24_LAYOUTS_INTERFACE BOARD



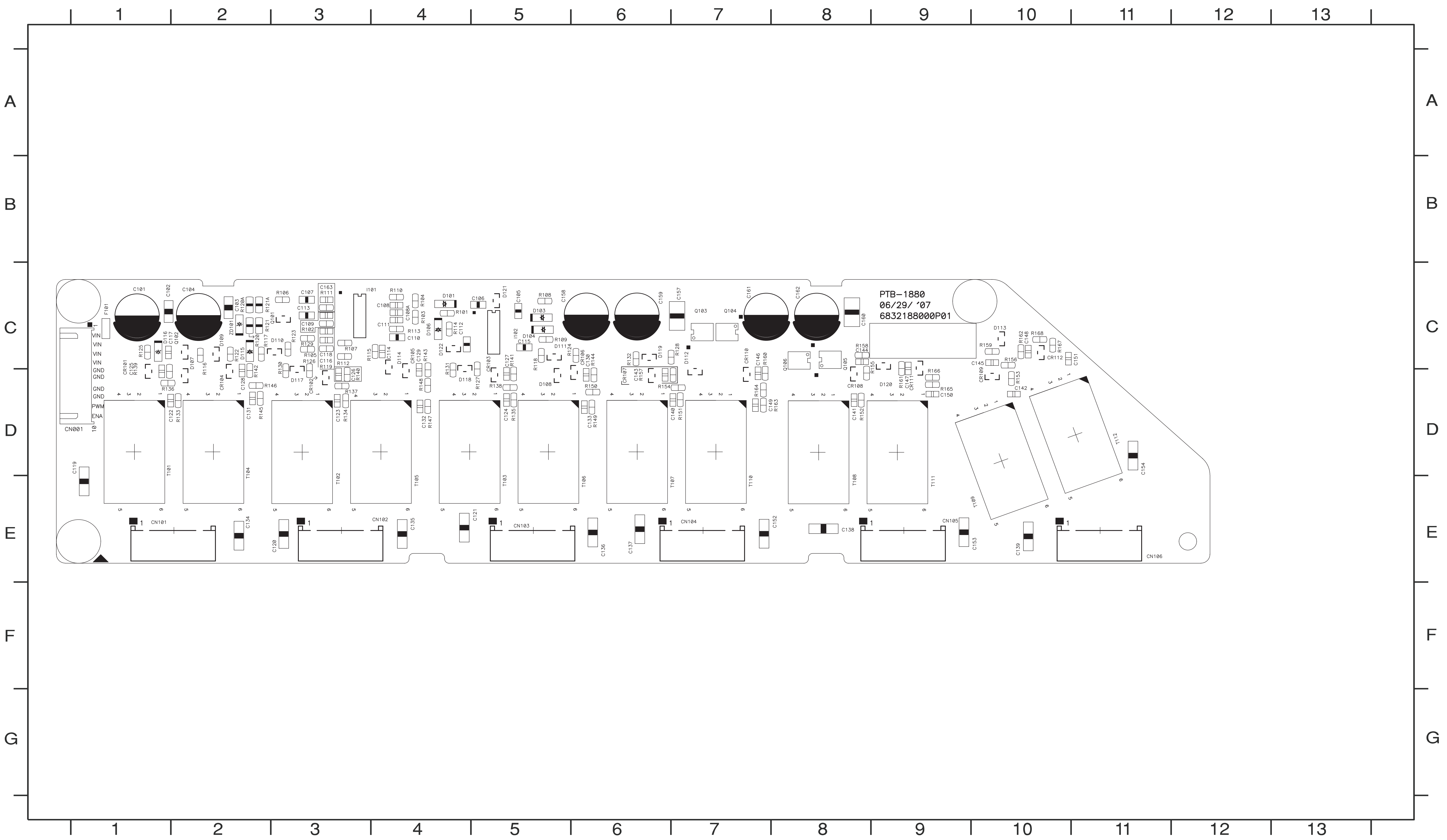
PCB No.

8.15 ACER_LCD_G24_LAYOUTS_FUNCTION KEY BOARD



PCB No.

8.16 ACER_LCD_G24_LAYOUTS_INVERTER BOARD



PCB No.